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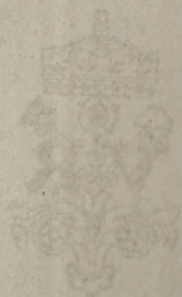
SOUTH KENSINGTON MUSEUM
ART HANDBOOKS

THE INDUSTRIES
OF ENGLAND

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CHAPMAN AND HALL, LIMITED
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SOUTH KENSINGTON MUSEUM
ART HANDBOOKS.

THE INDUSTRIAL ARTS
OF INDIA.

BY
GEORGE C. M. BIRDWOOD, C.S.I., M.D., EDIN.,
Art Referee for the Indian Section of the South Kensington Museum.

WITH MAP AND WOODCUTS.

VOL. II.



Published for the Committee of Council on Education

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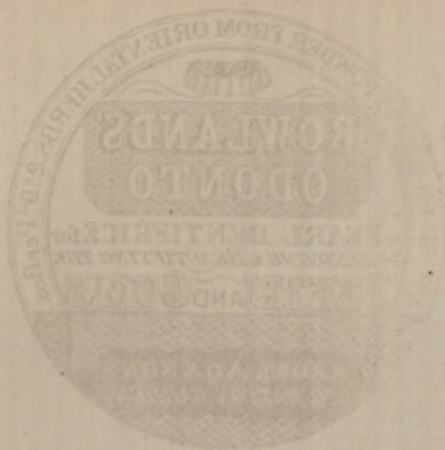
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THE INDUSTRIAL OF INDIA

GEORGE C. M. IRDWOOD, C.S.I.

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A NEW EDITION

VOL. I



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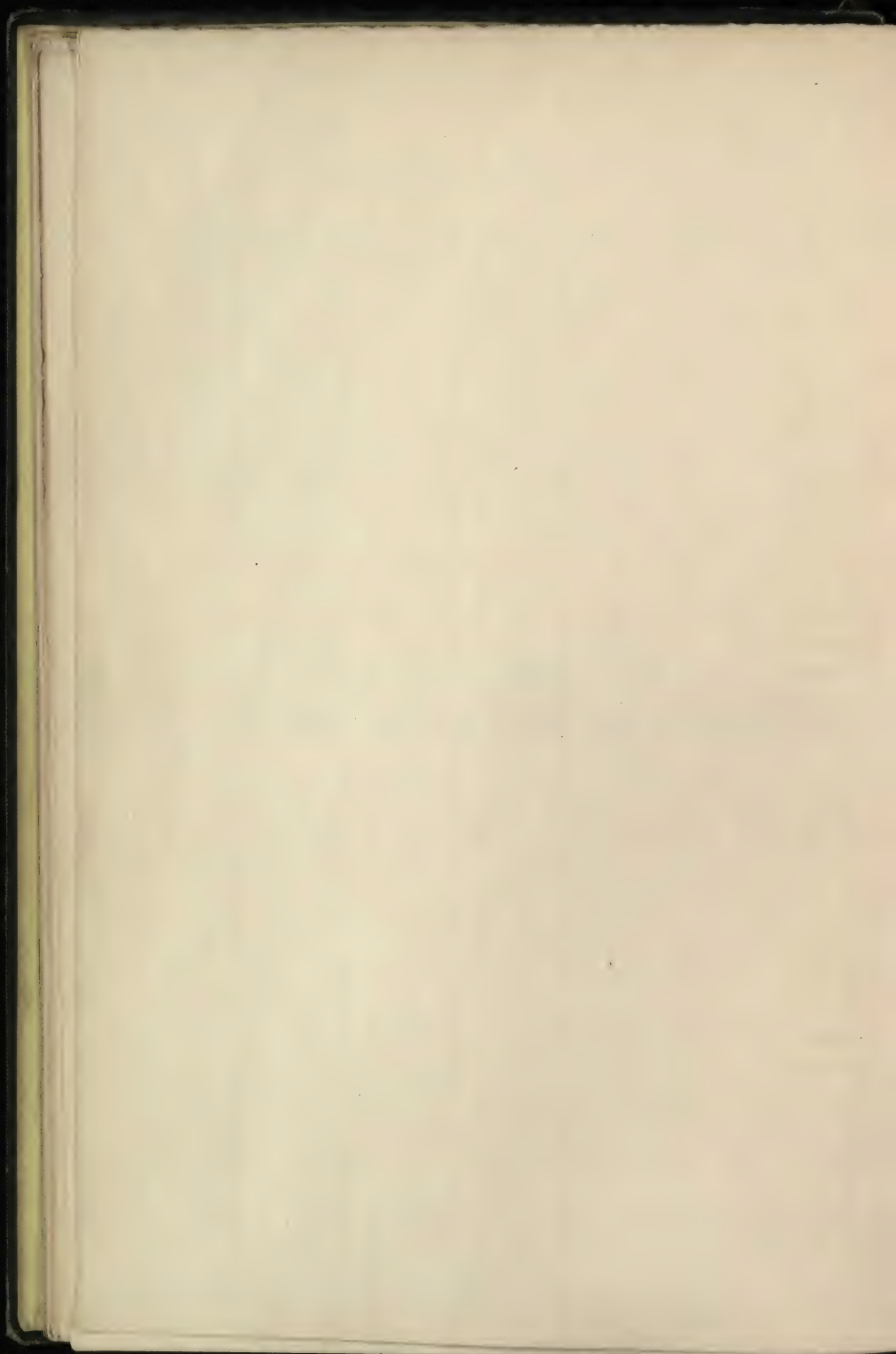
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THE
INDUSTRIAL ARTS OF INDIA.

VOL. II.

B



ARMS.

IN the Rig Veda frequent allusion is made to the use of the bow; the mastery of it was considered so important that to it a supplementary Veda, the Dhanur Veda, is devoted. In the Ramayana, Rama wins Sita for his bride by bending the great bow of Siva; and in the Mahabharata the choice of Draupadi fell on Arjuna, for his skill in archery. In the legendary life of Gautama Buddha we are also told that when his father sought out a wife for him among the daughters of the neighbouring rajas, they all refused, because, though handsome, he had not been taught any martial accomplishments. Nevertheless the young Prince Siddhartha proved his prowess against all comers at the tournament proclaimed by the Raja Suprabuddha, for his daughter's hand, and so gained the radiant Yasodhara for his wife. The Agni Purana gives a most elaborate classification of arms; and they are represented in every variety of form on the most ancient monuments of India. Indian steel has been celebrated from the earliest antiquity, and the blades of Damascus, which maintained their pre-eminence even after the blades of Toledo became celebrated, were in fact of Indian iron. Ctesias mentions two wonderful Indian blades which were presented to him by the King of Persia and his mother. The Ondanique of Marco Polo's travels refers originally, as Colonel Yule has shewn, to Indian steel, the word being a corruption of the Persian *Hundwaniy*, i.e., Indian steel. The

same word found its way into Spanish, in the shapes of *Alhinde* and *Alfinde*, first with the meaning of steel, and then of a steel mirror, and finally of the metal foil of a glass mirror. The Ondanique of Kirman, which Marco Polo mentions, was so called from its comparative excellence, and the swords of Kirman were eagerly sought after, in the fifteenth and sixteenth centuries, by the Turks, who gave great prices for them. We have seen that Arrian mentions Indian steel, *σιδηρος Ἰνδικός*, as imported into the Abyssinian ports; and Salmasius mentions that among the surviving Greek treatises was one *περὶ βαφῆς Ἰνδικοῦ σιδήρου*, "on the tempering of Indian steel."

Twenty miles east of Nirmal, and a few miles south of the Shisha hills, occurs the hornblende slate or schist from which the magnetic iron used for ages in the manufacture of Damascus steel, and by the Persians for their sword blades, is still obtained. The Dimdurti mines on the Godavari were also another source of Damascus steel, the mines here being mere holes dug through the thin granitic soil, from which the ore is detached by means of small iron crowbars. The iron ore is still further separated from its granitic or quartz matrix by washing; and the sand thus obtained is still manufactured into Damascus steel at Kona Samundram, near Dimdurti. The sand is melted with charcoal, without any flux, and is obtained at once in a perfectly tough and malleable state, superior to any English iron, or even the best Swedish. The Persian [Armenian] merchants, who in Voysey's days still frequented the iron furnaces of Kona Samundram, informed him that they had in vain attempted to imitate, in Persia, the steel formed from it. In the manufacture of the best steel three-fourths of Samundram ore is used, and one-fourth of Indore, which is a peroxide of iron.

Excellent steel is also still fused for gun-barrels and sword-blades, along the banks of the Nerbudda, at Panagar, Katangi, Jabera, Barela, and Tenderkhera in the Central Provinces; at Dewulghat in the Berars; and in Mysore. The knives and

hatchets made by the Ghasias along the Upper Godavari have been already mentioned. In the Panjab, superbly ornamented arms, of the costliest description, are made at Lahore, Sialkote, Gujrat, Shahpur, and in Cashmere. Good arms are also made at Monghyr, in the Bhagalpur division of Bengal. In Chittagong the *dao* manufactured by the Mugs has a long blade, widening towards the top, which is square, and fitted straight in the handle. The *kukri* of the Ghurkas of Nipal, which has a short handle and an incurved blade, widening in the middle and drawing to a point at the end, is well known. Swords of good temper are still made at Pehani, in the Hardoi district of Oudh. Handsomely-painted leather shields are made at Ahmedabad and in other parts of Gujarat in the Bombay Presidency, and also in Rajputana; and the Katch silversmiths are famous all over India for their decoration of arms of all sorts in *repoussé* gold and silver.

Nagpur, the capital of the Central Provinces, is noted for the manufacture of steel weapons, such as spears and daggers, with the steel brought from the valleys of the Nerbudda and Tapti. In the Madras Presidency arms and cutlery are produced at Tumkur for sale all over Mysore. There are 120 forges at Tumkur. Good swords, and spears, and daggers are also made at Kudwur and Vizianagram; the superbly-mounted arms of the latter place being used chiefly in pageantry. In Kurg a handsomely mounted sword, of a peculiar shape, is made, called *adya-kathi*.

For variety, extent, and gorgeousness, and ethnological and artistic value, no such collection of Indian arms exists in this country as that belonging to the Prince of Wales. It represents the armourer's art in every province of India, from the rude spear of the savage Nicobar islanders to the costly damascened, sculptured, and jewelled swords and shields, spears, daggers and matchlocks of Cashmere, Katch, and Vizianagram. The most striking object in the collection is a suit of armour made entirely of the horny scales of the Indian armadillo, or pangolin,

[*Manis pentadactyla*], encrusted with gold, and turquoises, and garnets. There is another splendid suit of Cashmere chain armour, fine almost as lace work. The style is essentially Persian and Circassian, and is identical with that of the armour worn in Europe in the thirteenth century. The damascened casque is surmounted with a plume of pearls. There are many other suits of armour, with damascened breastplates, gauntlets, and greaves, which carry one back to the crusades and legendary history of modern Persia. Some of the sword blades are marvelously watered, several are sculptured in half relief with hunting scenes, and others are strangely shaped, teethed like a saw, and flaming [*flamboyant*]; although for mingled cruelty and grotesqueness of appearance none equal the battle-axes of the Sowrahs and Khonds. There is the *kukri* of the Ghurkas, the *adyakathi* of the Moplas, the *tiga* of the wild tribes of Central India, and the knife used in the Meriah sacrifice. The collection also contains the great sword of Mahmud Chand Sultan Shah of the date of 1707, and the sword [No. 1,439] of the famous Polygar Katabomma Naik, who defeated the English early in the present century; and, most interesting of all, the sword [No. 74] of Sivaji, the founder of the Maratha dominion in India.

The rise of the Maratha power was almost contemporary with our own appearance in India. The Mogol Emperors of Delhi were in the habit of taking the Hindu Princes and Chiefs into high employ, and among the Maratha families in their service were the Bhonslas, whose tutelary deity was the goddess Bhavani of Tuljapur. It was of their family that the renowned Sivaji was born, at Siwnir, near Junir, about twenty miles southwest of Poona, in the very heart of the *marwuls* or valleys, which lie on the landward side of the Western Ghâts between Poona and Sattara. The hilly land between the Western Ghâts and the sea is called the Konkan. This is the cradle of the Maratha race, and it was with the aid of the hardy *marwulis*, or people of these inland and seaward valleys of the Western Ghâts, that Sivaji

laid the foundation of the Maratha Confederacy, which at one time extended its sway over the whole Dakhan. The Maratha country indeed in its widest sense almost corresponds with the area of the Chalukyan style of temple architecture in India, as defined by Mr. Fergusson. It is the whole country between the Malabar and Coromandel coasts watered by the Nerbudda, Tapti, Godavari, Bhima, and Kistna. North of the Nerbudda lies Mr. Fergusson's area of Indo-Aryan architecture, and south of the Kistna the Dravidian. There is really no authentic ancient history of Southern India, but to the Hindus Sivaji was not so much the destroyer of the hated Mahommedan supremacy in the Dakhan as the restorer of the half mythical Hindu state of Salivahana, and hence the great power of his name all over India, which can be understood only by those who have some knowledge of the notions universally received by Hindus of their traditional history. As the British power grew in India, it was at last brought face to face with the Maratha Confederacy, against which, between 1774 and 1818, we had to wage four harassing wars, signalised by the great victories of Assai and Kirki. In the latter battle the dominion of the Marathas was finally overthrown, although it was not until 1819 that their last fortress was taken. Their forts among the spurs of the Western Ghâts were their strength, and every one of them has its legend, keeping alive the spirit of nationality and patriotism among the hardy and romantic *marwulis*. Sivaji [nicknamed by Aurungzebe "a mountain rat"], at the age of nineteen, seized Torna, and with the spoils built Raighur, where he was subsequently enthroned, and where he died. After building Raighur, he took Singar and Purandar, and it was from the Konkan hill fort of Pertabghar, opposite Mahabaleshwur, that he issued, after receiving his mother's blessing and offering his vows to Bhavani, to circumvent, by an act of the most detestable treachery, the assassination of the Bijapur General, Afzul Khan. He enticed his generous and too confiding enemy into a secret turning in the road leading down the hill side, and there, in

pretending to embrace him, ripped his bowels open with the *wagnak* ["tiger claw"] concealed in his left hand, and stabbed him to the heart with the *bichwa* ["scorpion" dagger] hid up his right sleeve. He is the great national hero of the Maratha Hindus, and his descendants are held in the highest reverence throughout the Dakhan.

Every relic of his, sword, daggers, and seal, and the *wagnak* or "tiger-claw" with which he foully assassinated Afzul Khan, have all been religiously preserved at Sattara and Kolhapur ever since his death in 1680. Mr. Grant Duff, in his *Notes of an Indian Journey*, has described the worship of his famous sword, Bhavani, at Sattara. The sword in the Prince's collection is not this deified weapon, but the one that has always been kept, since Sivaji's death in 1680, at Kolhapur. The political value of the gift is simply incalculable. It was a family and national heirloom, which nothing but a sentiment of the profoundest loyalty could have moved the descendants of Sivaji to give up, and which has been sacredly guarded for the last 200 years at Kolhapur, as the palladium of their house and race, by the junior branch of the Bhonsla family.

Only less significant are the other gifts of the great sword of Sultan Chand, and the sword of Katabonnia Naik. All these historical weapons, the symbols of the latent hopes and aspirations of nations and once sovereign families, were literally forced on the Prince's acceptance in a spontaneous transport of loyalty, and their surrender may be fairly interpreted to mean that the people and princes of India are beginning to give up their vain regrets for the past, and, sensible of the present blessings of a civilised rule, desire to centre their hopes of the future in the good faith, and wisdom, and power of the British Government.

The barrel of one of the Prince's matchlocks [Plate 40], damascened in gold, with a sort of poppy pattern, one flower nodding above another along the whole length of the barrel, is the noblest example of damascening in the whole collection.

There is another matchlock [Plate 41], the stock of which is carved in ivory, against a chocolate-stained background, with scenes of wild animal life, in which every group is a perfect cameo. The richer arms are resplendent with gold and enamelling, and gems, and are generally of uncontaminated Indian design. There is, indeed, but little room for the obtrusion of European design in Oriental arms.

There are, however, several swords and daggers in the Prince's magnificent collection of arms, which have been mounted in native design by English workmen, and the result is not less mischievous than when European designs are literally imitated by unsophisticated native handicraftsmen. The mechanical character of European manufactures requires a consistent general finish which is quite out of place in the bold and freehand compositions of the best native art work, in which finish is strictly subordinated to practical use and artistic effect; and, if a taste for mechanical perfection becomes prevalent with the spread of middle class English ideas among the princes and chiefs of India, Indian wrought arms and jewelry will soon become arts of the past. The splendour of Indian arms and jewelry is due to the lavish use of diamonds, rubies, emeralds, and other bright and colored stones. But, as their work is really manual, and grows up spontaneously, like a growing flower, under their hands, the native jewellers are able to use the most worthless gems on it, mere chips and scales of diamonds, often so thin that they will float on water, and flawed rubies and emeralds, which have no value as precious stones, but only as barbaric blobs of colour. The European jeweller can use with his machine-made work only the most costly gems, polished to the highest lustre, far too costly to be used except for their own effect and intrinsic value only, and it would be impossible to employ them merely to enhance the general decorative effect, as in India. There are examples in the Prince's collection of exquisite gold work in purely native design, but by English workmen; and the mechanical perfection of their work has forced

them to use rose diamonds and brilliants in the ornamentation, but necessarily so scantily that all effect of splendour is lost. Where in other examples worthless Indian stones have been set in machine-made English gold work, the effect is flat and mean beyond belief. If, therefore, Indian jewelry should become mechanical, and hard, and glittery in character, it will at once cease to be artistic, and sink to the level of the extravagantly hard and vulgar trinketry of Birmingham, Paris, and Vienna.

The battle-axes used by the wild tribes are identical in form with those found among the prehistoric remains of man in Europe, perhaps because they have all been instinctively modelled from the teeth of carnivorous animals. It is impossible also to overlook the strong resemblance of the forms of Persian and Arabian arms, and of Indian arms shewing Persian and Arabian influence, to those represented on the sculptures of Assyria and Babylonia, and in the hieroglyphic painting of Egypt, as figured in Rawlinson's *Ancient Monarchies* and Wilkinson's *Ancient Egyptians*. This is especially marked in the typical fiddle-shaped handles of the daggers. The Arabian arms are distinguished by their fine filigraïn work and the absence of gems, the Persian by their superb damascening, enamelling, and carving, and the rare employment of gems in their decoration, only turquoises and pearls being generally used except in the incrustation of jade mountings; while the Indian arms are characterised by the high relief of their elaborately hammered and cut gold work, and the unsparing use of the precious gems with which they are embellished all over. It is the special defect of Indian, particularly of Hindu art, to run into this excess and satiety of decorative details. It is the exclusive prerogative of Greek art to produce beauty without the use of ornament.

The interest of the India Museum also culminates in its collection of arms, which have been arranged with the most imposing effect, according to the plan adopted by the Hon. Wilbraham Egerton, M.P., in the *Handbook of Indian Arms* which

he has prepared for the India Office, and which will be ready for sale at the India Museum when it is reopened. It is in fact a classified and descriptive catalogue of the arms exhibited at the India Museum, and is the only completed catalogue of any section of the Museum that has yet been made; and it will always remain a work of permanent reference on Indian armoury. Mr. Egerton first gives a sketch of the military history of India from the earliest times, adding figures of the arms of ancient India represented on the Buddhist sculptures of Sanchi [B.C. 250], and Udyagiri, and references to those portrayed in the Buddhist paintings at Ajanta [about A.D. 400]; and on the later Hindu temple of Bhuruvaveshwur [A.D. 650]; in the Jaina sculptures at Saitron in Rajputana [A.D. 1100]; on the sun temple at Kanarak [A.D. 1237]; and in the sculptures of the 15th century in the neighbourhood of Mandore, the former capital of Marwar. After this follows a most interesting and valuable chapter on the decoration, and processes of manufacture of Indian arms, which really exhausts the subject. He considers that Aryan art predominates over Turanian in Indian arms, and he divides the former into Hindi or Indian, and Iranic or Persian, and the latter into Dravidian, Tibetan, and Indo-Chinese. There is an obvious difference in the forms and details of decoration prevailing in the Panjab, Rajputana, and Hindustan generally, and of those which prevail in the Dakhan, and again along the Eastern Himalayas; but the distinguishing expression of an ethnic or national art is given to it not by its forms but by its animating spirit; and whatever may be the local shapes it takes there prevails all through India proper a distinctive art, which we recognise to be in its essence unvarying and indivisible, and which we may call Indian. A Mahomedan mosque in India, although its form may be Saracenic, is generally as essentially Hindu in expression as a temple of Siva or Vishnu. On the other hand, there is a deep and impassable gulf fixed between Indian art and the strongly specialised art of Further India.

In classifying the India Museum arms Mr. Egerton has divided them in a thoroughly practical manner into twelve groups, which are partly ethnical, partly geographical, and partly economical.

GROUP 1 is of the arms of the aboriginal and non-Aryan tribes of Central India, and the Andaman Islands.

GROUPS 2 and 3, of the aboriginal and Dravidian races of Southern India.

GROUP 4, of the hill tribes of Assam and the North East frontier.

GROUP 5, of British and native Burma and Assam.

GROUP 6, of the Malayan Peninsula, and Indian Archipelago.

GROUP 7, of Nipal.

GROUP 8, of the Rajputs.

GROUP 9, of the Marathas; and of the Mahommedans of Mysor and the Dakhan.

GROUP 10, of Sindh and the Panjab.

GROUP 11, of the Afghans and Persians; and also of the Abyssinians, &c.

GROUP 12, of arms used for athletic and sacrificial purposes.

It is in this order that the arms have been arranged in the India Museum, and nothing could be simpler or more effective for the purpose of instruction, or more suitable for their artistic display. In his preface Mr. Egerton expresses a regret, in which every one will concur, that the collection of Indian arms at the Tower has not been united to the India Museum collection: and that the Government of Madras should have recently allowed the old historical weapons from the armouries of Tanjore and Madras to be broken up and sold for old metal. This act of vandalism is all the more to be deplored, as neither the Tower nor the India Museum collections are, as Mr. Egerton points out, rich in Southern Indian arms.

I have illustrated a spear-head [Plate 43] of Vizianagram work, as an example of decoration derived from the temple architecture of the Madras Presidency.



SPEAR HEAD, MADRAS.



TRAPPINGS AND CAPARISONS.

ALL Indian collections are overloaded with gaudy trappings, state caparisons and housings, horse-cloths, elephant-cloths, howdahs, high umbrellas, standards, peacock tails, yak tails, and other ensigns of royalty. But they look very brave in procession through the narrow, picturesque streets thronged with the gay crowd of an Indian town, advancing tumultuously between the high, overhanging houses, painted storey above storey in red and green and yellow, like macaws ; or when the Maratha princes and their whole court go forth in unprepared pomp, with trumpets, shawms, high shrilling pipes, and belaboured *tom-toms*, into the jungle to do homage at the *dassera* festival to the *palas* tree [*Butea frondosa*] ; returning every one with his hands full of its yellow flowers to offer as gold before the idols in the wayside village temples. They are also very interesting for the designs to be found on the metal work ; and for the manner in which cut cloth work, *opus consutum*, or *appliqué* as it is termed by the French, is used in the ornamentation, particularly of the horse-cloths, saddles, and girths. *Chattries* or umbrellas, and *chauries* or horse-whisks of sandal wood and ivory, and particularly of yak tails, and *murchals* or fly-flappers of peacock feathers, are regarded as the most solemn symbols of state throughout the East.

In the *Ayin Akbari*, or *Institutes of the Emperor Akbar*, written by Abdul Fazl, Akbar's great minister [see Gladwin's Translation, London, 1800], the following enumeration is given

of the ensigns of state "which wise monarchs consider as marks of divine favour."

The *aurung* or throne, the *chuttur* or umbrella, the *sayiban* or sun fan; and the *kowkebah* or stars in gold and other metals which are hung up in front of the palace: and these four ensigns are used only by kings.

The *alum*, the *chuttertowk*, and the *tementowk*, all varieties of standards of the highest dignity, appropriated solely to the king and his military officers of the highest rank.

Then follow the *kowrek*h or *demameh*, the *nekareh*, and the *dehl*, three kinds of drums; the *kerna* of gold, silver, brass, or other metal, the *serna*, the *nefeer*, the *sing*, or horn of brass, made in the form of a cow's horn, all different kinds of trumpets; and the *sing*, or conch shell.

Formerly, adds Abdul Fazl, they used to blow the conch shell four hours before night, and the same time from daybreak; but now the first blast is at midnight and the other at sunrise:—"And one hour before sunrise the lively blast of the *serna* awakens those who slumber; and the *kowrek*h is beat a little. These are presently joined by the *kerna*, the *nefeer*, and all the other musical instruments excepting the *nekareh*. Then after a short pause, the *serna* and the *nefeer* play the musical modes, after which the *nekareh* is beat and the people with one voice pray blessings on his majesty." Thus was the *reveillé* sounded in every camp and garrison of Hindustan and the Dakhan, at the plenitude of the Mogol power in India, during the reign of the Emperor Akbar, 1556—1605; at the very moment when Queen Elizabeth was signing [31 December 1600] the charter of the East India Company, which was to prove its death warrant.

In Herklot's *Quanoon-i-Islam*, London, 1832, [*Canons of Islam*], the *alums* or *allums* used in the Moharram procession in India are described in detail. They are analogous to the standards used by the Greeks and Romans and those figured

on the gates of the Sanchi tope ; consisting not only of flags, but of all sorts of devices in metal, raised on the top of a long staff. They are generally kept wrapped up in bags of scarlet cloth, and displayed only on days of festivity and parade ; and, of old time, before the British peace was established, in battle. The umbrella is the highest of all these insignia of regality. *Chatrapati*, "lord of the umbrella," is even now a prouder title in India than *raja* or *maharaja*. The king of Burma's title translated is "Lord of the Twenty-four Umbrellas ;" and the Emperor of China always has that number of umbrellas borne before him, even in the hunting-field. A vermilion umbrella always in the east signifies imperial authority. The *Mahabharata* makes frequent mention of umbrellas as a mark of royalty, and speaks of the gift of a white umbrella, having a hundred ribs, as calculated to insure the giver a place in Indra's heaven. Rajendralala Mitra, in his *Antiquities of Orissa*, Calcutta, 1875, says that the most detailed rules are given in the *Yukti kalapataru* for the making and proportion of the parts of both royal and common umbrellas. An umbrella with the stick of choice wood, and ribs of selected bamboo, and a cover of scarlet cloth is a gift worthy of presentation to a king. It is called a *prasada*. An umbrella with blue cloth and a gold fringe is meet for a prince. It is called a *pratapa*. An umbrella, the frame and stem of which are of sandal-wood, mounted in gold, with a golden *kalasa* or knop on the top, and covered with pure white, fringed with gold, is the right umbrella for a noble. It is called a *kanaka-danda*. But the most important umbrella of all is the *nava-danda*, which is used only on occasions of high state, such as coronations, the marriages of kings and princes, and other regal celebrations. The stem, the sliding frame and the ribs are all of pure gold. The handle is a pure ruby, and the knop at the end a diamond, and the cover of silk, of the choicest colours, and fringed with thirty-two looped strings of pearls, with thirty-two pearls on each string. Umbrellas

are also appropriately decorated with the feathers of the peacock, heron, parrot and goose.

The *chamara* or *chauri* is next in dignity to the umbrella, and may be made either of strips of sandal-wood, or of ivory ; but the most esteemed are those made of the tail of the Himalayan yak. The Prince has a pair of yak-tail *chauris*, and also of *murchals*, mounted on elaborately jewelled and enamelled handles. To put gems and enamel on peacock feathers would seem like adding another hue to the rainbow, but there is no "wasteful and ridiculous excess" in the masterly way in which the Jaipur artist has used the feathers and gems, and his secret enamels to mutually enhance each other's effect. Nothing can be richer than his materials, nothing more harmonious and effective than the manner in which he has combined them. The popes always have peacock feathers borne before them at their enthronement, and no doubt the custom was derived at some distant date from the East. There is a *sayiban* in the arms room of the India Museum made of a talipot palm leaf, with a conventional tree pattern worked on it, which in form and detail is exactly like the fan-like ensign represented in the Nineveh marbles as borne before the kings of ancient Assyria. The royal *howdahs* and the painted open palanquin in the arms room are most picturesque-looking objects, and are valuable examples of strong and massive goldsmith's work and Indian ivory and wood carving and turning.

JEWELRY.

EVEN a greater variety of style is seen in Indian jewelry than in Indian arms. Mr. W. G. S. V. FitzGerald sent to the Annual International Exhibition of 1872, a collection of the grass ornaments worn by the wild *Thakurs* and *Katharis* of Matheran, and the Western Ghats of Bombay, which had been made by Dr. T. Y. Smith, the accomplished Superintendent of the Hill Station; and by the side of these grass collars, necklaces, bracelets, anklets, and girdles were exhibited also examples of the gold jewelry of thick gold wire, twisted into the girdles, bracelets, anklets, necklaces, and collars, which are worn all over India, and are fashioned in gold exactly as the Matheran ornaments are fashioned in grass. These gold collars are identical with the "*torque*" [from Latin *torquis*, a twisted neck-chain], worn by the Gauls, which gave its name to the patrician Roman family of Torquatus, from Manlius having, about B.C. 361, earned immortal glory by slaying a gigantic Gaul, whose dead body he stripped of the torque, which he placed round his own neck. The Gaul, in the Roman statue of "the Dying Gladiator," is represented with a torque round his neck. Necklaces of gold are also worn in Western India which are identical in character with the Matheran necklaces of chipped and knotted grass, which indicate the origin also of the peculiar Burmese necklaces, formed of tubular beads of ruddy gold strung together, and pendent from a chain which goes round the neck, from which

the strings of tubular beads of gold hang down in front, like a golden veil. The details in these Burmese necklaces are often variously modified, the gold being wrought into flowers, or replaced by strings of pearl and gems, until all trace of its suggested origin is lost. By the side of Mr. FitzGerald's collection, I exhibited the "fig-leaf" worn by the women in the wilder parts of India, and which in many places is their only clothing. First was shewn the actual "fig-leaf," the leaf of the sacred fig, or *pipal*, *Ficus religiosa*; next a literal transcript of it in silver, and then the more or less conventionalised forms of it, but all keeping the heart-shape of the leaf; the surface ornamentation in these conventionalised silver leaves being generally a representation of the *pipal* tree itself or some other tree or tree-like form suggesting the "Tree of Life" of the Hindu Paradise on Mount Meru. These silver leaves are suspended from the waist, sometimes, like the actual leaf, by a simple thread, but generally by a girdle of twisted silver with a serpent's head where it fastens in front; and this ornament is possibly the origin of the "heart and serpent" bracelets of European jewelry. In Algeria, a leaf-shaped silver ornament is worn by girls till they come to an age when more voluminous apparel is required; and it is the emblem of virginity throughout the Barbary [Berber] coast. The forms of the *champaca* [*Michelia Champaca*] blossom, of the flowers of the *babul* [*Acacia arabica*] and *seventi* [*Chrysanthemum* species], the name of which is familiar in England through the story of "Brave Seventi Bhai," "the Daisy Lady," in Miss Frere's *Old Deccan Days*, are commonly used by Indian jewellers for necklaces and hairpins, as well as of the fruit of the *anola* or *aonla* [*Phyllanthus emblica*], and *ambgul* [*Elæagnus Kologa*], and mango, or *amb* [*Mangifera indica*]. The bell-shaped earring, with smaller bells hanging within it, is derived from the flower of the sacred lotus; and the cone-shaped earrings of Cashmere, in ruddy gold, represent the lotus flower-bed. The use

of these flowers in Indian jewelry is possibly not prehistoric, but has come down from an immemorial tradition. The lotus, which often passes into the *seventi*, is seen everywhere in Indian and Chinese and Japanese decoration, and on Assyrian and Babylonian sculptures.

As primitive as the twisted gold wire forms of Indian jewelry, is probably the chopped gold form of jewelry worn also throughout India, the art of which is carried to the highest perfection at Ahmedabad and Surat in Western India. It is indeed worn chiefly by the people of Gujarat. It is made of chopped pieces, like jujubes, of the purest gold, flat, or in cubes, and, by removal of the angles, octahedrons, strung on red silk. It is the finest archaic jewelry in India. The nail-head earrings are identical with those represented on Assyrian sculptures. It is generally in solid gold, for people in India hoard their money in the shape of jewelry; but it is also made hollow to perfection at Surat, the flat pieces, and cubes, and octahedrons being filled with *lac* or *dammar*.

The beaten silver jewelry of the Gonds, and other wild tribes of the plains of India, and valleys of the inner Himalayas is also very primitive in character. The singular brooch worn by the women of Ladak [*v. Miss Gordon Cumming's From the Hebrides to the Himalayas*, 1876, p. 219], are identical with those found among Celtic remains in Ireland and elsewhere. It is one formed of a flat and hammered silver band, hooped in the centre, with the ends curled inward on the hoop; and this is too artificial a shape to have arisen independently in India and Europe, and must have travelled westward with the Celtic emigration from the East. Its form is evidently derived from the symbols of serpent and phallic worship.

The waist-belt of gold or silver, or precious stones, which is worn in India to gird up the *dhoti*, or cloth worn about the legs, recalls the Roman *cingulum*; and, as in Rome, when the ceremony of changing the *toga prætexta* for the *toga virilis* was

performed, the *aurea bulla* was taken from the boy's neck, and consecrated to the domestic Lar ; so, in India, at the ceremony of investiture with the sacrificial thread, an identical ornament, a hollow hemisphere of gold, hung from a yellow cotton thread or chain of gold, is taken from the boy's neck, and the sacred cord, the symbol of his manhood, is put on him.

The *nava-ratna* or *nao-ratan*, an amulet or talisman composed of "nine gems," generally the—

Coral, Topaz, Sapphire,
Ruby, flat Diamond, cut Diamond,
Emerald, Hyacinth, and Carbuncle,

is certainly suggestive also of some connexion with the *Urim* and *Thummim*, or sacred oracle of the Jews, taken by Chosroes II from Jerusalem, A.D. 615, and probably still existing among the ruins of one of the old Sassanian palaces of Persia. This ancient ornament gave its name as a collective epithet to the "nine-gems" or sages of the Court of Vikramaditya, B.C. 56. In books the nine gems of the amulet are said to be pearl, ruby, topaz, diamond, emerald, lapis-lazuli, coral-sapphire, and a stone, not identified, called *gomedā*. The *tri-ratna*, is the "triple-gemmed" "Alpha and Omega" jewel of the Buddhists, symbolical of Buddha, the Law, and the Church.

The jeweller's and goldsmith's art in India is indeed of the highest antiquity, and the forms of Indian jewelry as well as of gold and silver plate, and the chasings and embossments decorating them, have come down in an unbroken tradition from the Ramayana and Mahabharata. In the Ganges valley dawned the first light of Aryan civilisation, which spread thence into the valley of the Tigris and the Euphrates. The civilisation of Egypt was more ancient, but was undoubtedly largely influenced by Assyria and India, influencing them in turn; and from the earliest ages, as throughout all ages, through the Arabs,

Phoenicians, and Armenians, the civilisation of India, Egypt, Assyria, and that of Greece and Rome, have acted and reacted on each other. But the earliest records, the national epics, and ancient sculptures and paintings, represent the Hindu forms of Indian jewelry, and gold and silver plate, and common pottery and musical instruments, and describe them exactly as we have them now.

Jewelry is constantly mentioned in the Rig-Veda. The Maruts decorate their persons with "various ornaments," "they are richly decorated with ornaments," and "shining necklaces are pendent on their breasts." The Aswins are adorned with "golden ornaments," and the Asuras likewise have "plenty of gold and jewels." The sage Kakshivat, the reputed author of several of the hymns of the Rig-Veda, prays for a son "decorated with golden earrings, and a jewelled necklace," and largesses of "gold and jewels," to the priests and Brahmins are constantly mentioned in the Nirukta, or Etymological Glossary, forming one of the Vedangas, and in the grammar of Panini, who is supposed to have lived in the 4th century B.C.

The names of various kinds of jewels are given, which are identical with those still in parlance throughout India. Manu minutely defines the nature and duties of the jeweller, and the fines he is to pay for piercing precious gems such as rubies and diamonds, and for boring inferior gems improperly, and the punishment due to him for debasing gold. The references to jewelry in the Ramayana and Mahabharata are too numerous for quotation. Sita is represented as arrayed for her marriage with Rama in a light *sari*-like garment of a rosy red colour embroidered with gold, and with jewelled butterflies and other bright ornaments in her raven hair. Her ears are resplendent with gems, she has bracelets and armlets on her arms and wrists, a golden zone binds her slender waist, and golden anklets her ankles. She has jewelled rings on her fingers, and golden bells on her toes, that tinkle as she walks with naked feet over the

carpeted floor. In the Mahabharata, at the gambling match at Hastinapura, Yudhishthira is described as losing first "a very beautiful pearl ; next a bag containing a thousand pieces of gold ; next a piece of gold so pure that it was soft as wax ; next a chariot set with jewels, and hung all round with golden bells ; next 1,000 war elephants with golden howdahs set with diamonds ; next 100,000 slaves all dressed in good garments ; next 100,000 beautiful slave girls, adorned from head to foot with golden ornaments ; next all the remainder of his goods ; next all his cattle ; and then his whole kingdom, excepting only the lands he had granted to the Brahmans." Sudraka, the royal author of the Hindu drama of "The Toy Cart," and who lived in the first century B.C. or A.D., describes the jeweller's *atelier* attached to the house of a courtesan :—"Where skilful artists were examining pearls, topazes, emeralds, sapphires, lapis-lazuli, coral and other jewels. Some set rubies in gold, some string gold beads in colored thread" [exactly as is done now], "some string pearls, some grind lapis-lazuli, some cut shells, and some turn and pierce coral."

The old vocabulary of Amara Sinha, one of the "nine gems" of the Court of Vicramaditya, B.C. 56—A.D., quoted by Rajendralala Mitra, gives a long list of names for crowns, crests, and tiaras for the head ; of rings, flowers, and bosses for the ears ; of necklaces of from one to one hundred rows of gems ; of all shapes and patterns of armlets and bracelets, of zones and girdles for the waists of men and women ; of anklets, and other ornaments for the legs ; and of rings for the fingers, and bells for the toes ; and all the names it gives are still the current names of Hindu jewelry in India. The sculptures of Sanchi and Bharhut, and Amravati, and the Ajanta cave paintings, and the sculptures of Orissa [Bhuvaneshwar] prove that in its forms also Hindu jewelry has remained unaltered during at least the last two thousand years. The ornaments of Sanchi and Bharhut are of the same archaic character as those still made in Central India and the

Central Provinces, and by the aboriginal tribes of the Bengal and Bombay Presidencies; while those of Amravati shew more of the elaboration and finish of the Dravidian [*swami*] jewelry of the Madras Presidency.

After the archaic jewelry of Ahmedabad, the best Indian jewelry, of the purest Hindu style, is the beaten gold of Sawuntwadi, Mysore, Vizianagram, and Vizagapatam, which well illustrates the admirable way in which the native workers in gold and silver elaborate an extensive surface of ornament out of apparently a wholly inadequate quantity of metal, beating it almost to the thinness of tissue paper, without at all weakening its effect of solidity. By their consummate skill and thorough knowledge and appreciation of the conventional decoration of surface, they contrive to give to the least possible weight of metal, and to gems, commercially absolutely valueless, the highest possible artistic value, never, even in their excessive elaboration of detail, violating the fundamental principles of ornamental design, nor failing to please, even though it be by an effect of barbaric richness and superfluity. This character of Indian jewelry is in remarkable contrast with modern European jewelry, in which the object of the jeweller seems to be to bestow the least amount of work on the greatest amount of metal. Weight is in fact the predominant character of European "high class" jewelry, and gold and silversmith's work. Even when producing the best Adams' designs, they spoil their work by making it too thick and heavy; and so demoralising is the rage for weight that English purchasers, attracted by the eye to Indian jewelry, directly they find how light it is in the hand reject it as rubbish; the cost of Indian jewelry being from one-twentieth to one-fourth in excess of its net weight. The jury on jewelry at the Great Exhibition of 1851 actually wrote of Indian jewelry: "It is sufficient to cast a glance on the exhibitions of India, Turkey, Egypt, Tunis, to be convinced that these nations have remained stationary

from a very early period of manufacture. Some of them indeed develop ideas full of grace and originality, but their productions are always immature and imperfect, and the skill of the workman is called in to make amends for the inadequateness of the manufacturing process." Surely it is better to remain stationary than to fall, as we have in England, from the thin beaten silver of Queen Anne's reign, and the designs of Adams, to the present unseemly dead-weight silver and gold manufactures of Birmingham and London, for which customers have to pay four times and more than the value of their weight. Its false appearance of richness and solidity, and flaunting gorgeousness, is in fact one of the charms of Indian jewelry, especially in an admiring but poor purchaser's eyes. You see a necklace, or whatever ornament it may be, made up apparently of solid, rough cut cubes of gold, but it is as light as pith. Yet, though hollow, it is not false. It is of the purest gold, "soft as wax," and it is this which gives to the flimsiest and cheapest Indian jewelry its wonderful look of reality. Again, you see a necklace or girdle of gems which you would say was priceless, but it is all mere glamour of pearls and diamonds, emeralds and enamel, which "deceitful shine" but have no intrinsic value. As was noticed under the head of "Arms," the Indian jeweller thinks only of producing the sumptuous, imposing effect of a dazzling variety of rich and brilliant colours, and nothing of the purity of his gems. He must have quantity, and cares nothing for commercial quality, and the flawed "tallow drop" emeralds, and foul spinel rubies, large as walnuts, and mere splinters and scales of diamonds, which he so lavishly uses, are often valueless, except as points, and sparkles, and splashes of effulgent coloring: but nothing can exceed the skill, artistic feeling, and effectiveness with which gems are used in India both in jewelry proper, and in the jewelled decoration of arms, and plate. In nothing indeed do the people of India display their naturally gorgeous and costly taste so





NECKLACE, PANJAB.





NECKLACE, PANJAB.

much as in their jewelry and jewelled arms, which are not only fabricated of the richest and rarest materials, but wrought likewise with all the elaborateness, delicacy, and splendour of design within the reach of art. Megasthenes was struck by the contrast of their love of sumptuous ornament, to the general simplicity of their lives.

The finest gemmed and enamelled jewelry in India is that of Cashmere and the Panjab, the Aryan type of which extends across Rajputana to Delhi and Central India, and in a debased meretricious form throughout Bengal. It consists of tires, aigrettes, and other ornaments for the head, and for hanging over the forehead; earrings and earchains, and studs of the *seventi* flower; nose-rings and nose-studs; necklaces [Plate 44] made up of chains of pearls and gems, falling on the breast almost like a stomacher of gems; and [Plate 45] of tablets of gold set with precious stones, strung together by short strings of mixed pearls and turquoises, with a large pendant hanging from the middle, gemmed in front, and exquisitely enamelled, like all the rest of this necklace, or rather collar, at the back; and of armlets, bracelets, rings, and anklets; all in never ending variations of form, and of the richest and loveliest effects in pearl, turquoise, enamel, ruby, diamond, sapphire, topaz, and emerald. The bracelets often end in the head of some wild beast, like the bracelets of the Assyrian sculptures; and the plaques are sometimes enamelled at the back with birds or beasts *affronté* on either side of the taper "cypress" tree, or else some wide-spreading tree, identical, probably, with the *Asherah* or "*Hom*," the symbol of *Asshur*, connected with the worship of Astoreth or Astarte, and translated in the Bible by the word "grove," or "groves." The long dangling necklaces worn by the women are called *lalanti*, *i.e.* "danglers," or "dalliers," and *mohanmala*, *i.e.* "garlands or spells of enchantment."

The jewelry of Cashmere is identical with that of the rest of the Panjab in form, but what I have seen of it has been in

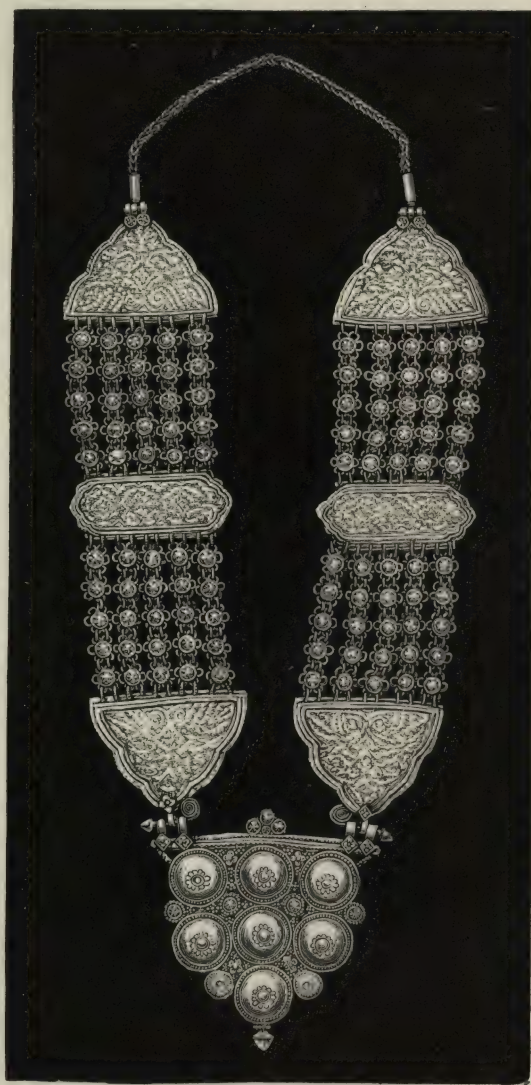
gold, and the choicest specimens in "ruddy gold," combining a good deal of gold filigrain work. The enumeration in Isaiah iii 17-24, of the articles of the *mundus muliebris* of the daughters of Zion, reads like an inventory of this exceedingly classical looking jewelry of Cashmere. Homer's lines, *Il.* xxii 468-70 [describing the grief of Andromache] are, in Pope's translation :—

"Her hair's fair ornaments, the braids that bound [δέσματα σιγαλόεντα],
The *net* [κεκρύφαλον] that held them, and the *wreaths* [ἔμπυκα] that crowned,
The *veil* (κρήδεμνον) and *diadem* (πλεκτήν ἀνιδέσμην) threw far away.
(The gift of Venus on her bridal day.)"

The ἀνιδέσμη of Homer, supposed by Schliemann to have resembled one of the gold ornaments found by him at Hissarlik, is almost identical with the ornament of gold pendants, often gemmed, worn across the brow by the women of Cashmere and the Panjab, and indeed all over India, and in Egypt. Those who cannot afford the ἀνιδέσμη πλεκτή often ornament the front part of the "head band" with imitations of it in spangles and paint. The κεκρύφαλον was the "net" and the κρήδεμνον the "veil" of Pope's translation, but the ἄμπυξ, which he translates by "wreath," and is generally translated by "head band," I have always ventured to suppose was a head ornament similar to the hemispherical golden ornament worn by women, both at Bombay and Cairo, on the top of their heads, of which one sees in collections such fine specimens from Sawantwadi and Vizianagram. The dancing girls ["Bayaderes"] of the Dakhan, wear an ornament for the bosom, resembling the Ægis of Athene, a sort of rich stomacher, with two hemispherical caps of gold to cover the breasts.

The gemmed jewelry of Delhi has lost its native vigour under European influences, but although weak is pretty. The little miniatures, "Delhi paintings," with which some of it is adorned shew that the "limners" of the Mogol's capital have lost nothing of their cunning since Terry so highly praised their skill. They paint not with the brush, but with a pen. The *babul* ornament is not only very pretty, but highly interesting,

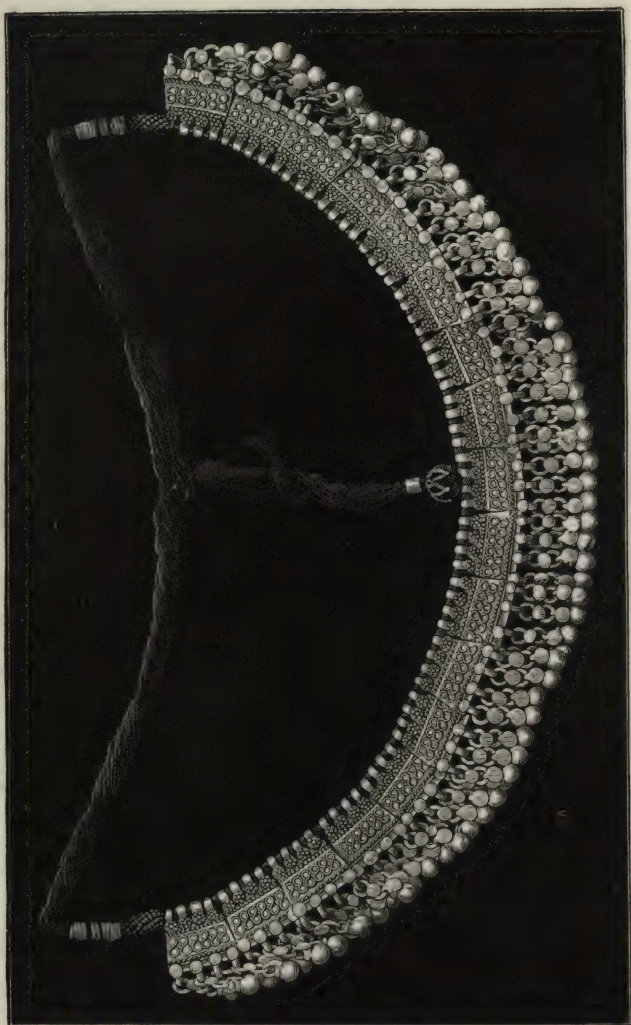




SILVER NECK ORNAMENT, SINDH.

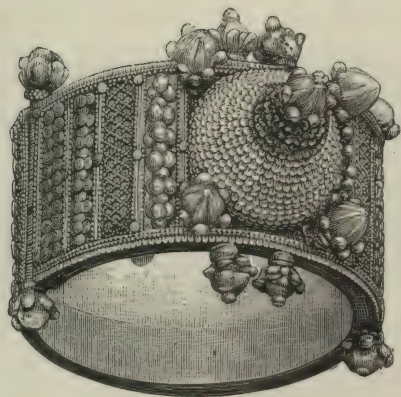


[PLATE 47.]



SILVER NECK ORNAMENT, SINDH.





NATIVE SILVER JEWELLERY OF CUTTACK



SILVER FILIGRAIN JEWELLERY OF CUTTACK.

for it proves that the Phœnician art, so long forgotten in Europe, of soldering gold in grains, which Castellani discovered some years ago to be still practised in an obscure Italian village, has never been lost in India.

The jewelry of Sindh and Baluchistan is similar to that of the Panjab, but is usually found only in its more primitive gold and silver forms [Plates 46 and 47]. Solid silver torques, and anklets, and bracelets are very common, of a severe style of rectangular construction and ornamentation.

The jewelry of Oudh is of the same general style as that of Delhi and Lahore. It was formerly very celebrated, but has declined, owing to the destruction of the native court at Lucknow. The jewellers of this old royal city lost all their capital during the Mutiny of 1857, and have never since recovered their former position. Some jewellers, however remain, and diamond cutters, who prepare the table diamond so popular in India, and the rose diamond. The finest and most elaborate jeweller's work in Lucknow only costs 6 per cent. on the value of the raw material. The artist of the highest pretensions is happy to work for two shillings a day, and eightpence a day is considered fair wages for a good workman.

The silver filigrain work [Plate 48] in which the people of Cuttack in Orissa have attained such surprising skill and delicacy, is identical in character with that of Arabia, Malta, Genoa, Norway, Sweden, and Denmark; and with the filigrain work of ancient Greece, Byzantium, and Etruria, and was probably carried into the West by the Phœnicians and Arabs, and into Scandinavia by the Normans, and in the course also of the mediæval trade between Turkestan and Russia. In Cuttack the work is generally done by boys, whose sensitive fingers, and keener sight enable them to put the fine silver threads together with the necessary rapidity and accuracy. It is quite distinct in character from the indigenous silver jewelry of the country, as will be seen from the illustration given.

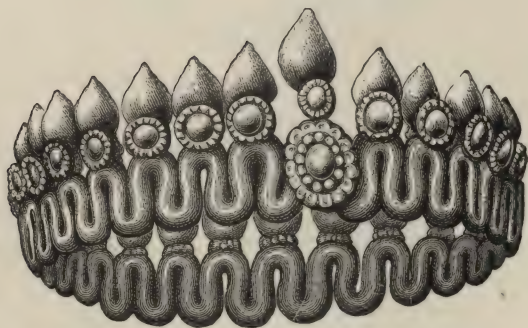
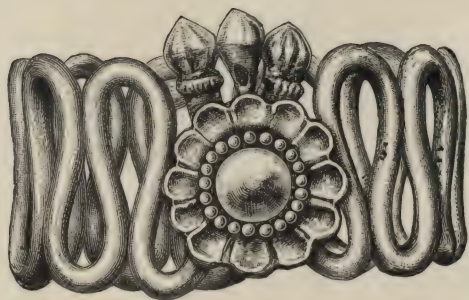
Gold and silver filigrain work of great excellence is also produced at Murshedabad and Dacca in Bengal; and gold and silver jewelry of all kinds, rosaries, bracelets, necklaces, &c., at Monghyr; and silver ornaments at Potocakhalli in the Patna division. The silver jewelry of Dinajpur in the Rajshahye district is of highly interesting primitive forms [Plates 49 and 50]. At Sahibganj in the Dacca division imitation Dacca jewelry is largely made. From the Hindu drama "The Toy Cart" already quoted it is clear that the excellence of the imitation jewelry of India was recognised at a very early period. A question is raised in a court of justice about the identity of certain ornaments, whereupon the Judge asks:

Judge.—"Do you know these ornaments?"

Mother.—"Have I not said? They may be different, though like. I cannot say more; they may be imitations made by some skilful artist."

Judge.—"It is true. Provost, examine them; they may be different, though like; the dexterity of the artist is no doubt very great, and they readily fabricate imitations of ornaments they have once seen, in such a manner, that the difference can scarcely be discernible."

The primitive character of Tibetan jewelry has already been noticed. A good deal of it now finds its way into India through Bhutan, Sikkim, Nipal, and Cashmere, chiefly in silver—ornamented with large crude turquoises, and sometimes with coral,—in the shape of armlets, and necklets, consisting of amulet boxes, strung on twisted red cloth, or a silver chain; and in various other forms, such as bracelets, anklets, &c., hammered, cut, and filigrained. It is identical in character with the jewelry so profusely represented in the Bharhut sculptures. The women of Ladak wear a curious ornament called a *parak*, which falls from the forehead over the head, down the back to the waist. It is covered with precious stones, and the wearer does not marry until she has possessed herself of enough of them to form a



PRIMITIVE SILVER JEWELLERY OF DINAJPUR, BENGAL.





PRIMITIVE SILVER JEWELLERY OF DINAJPUR, BENGAL.



NATIVE GOLD JEWELLERY OF SAWANTWARI, BOMBAY.

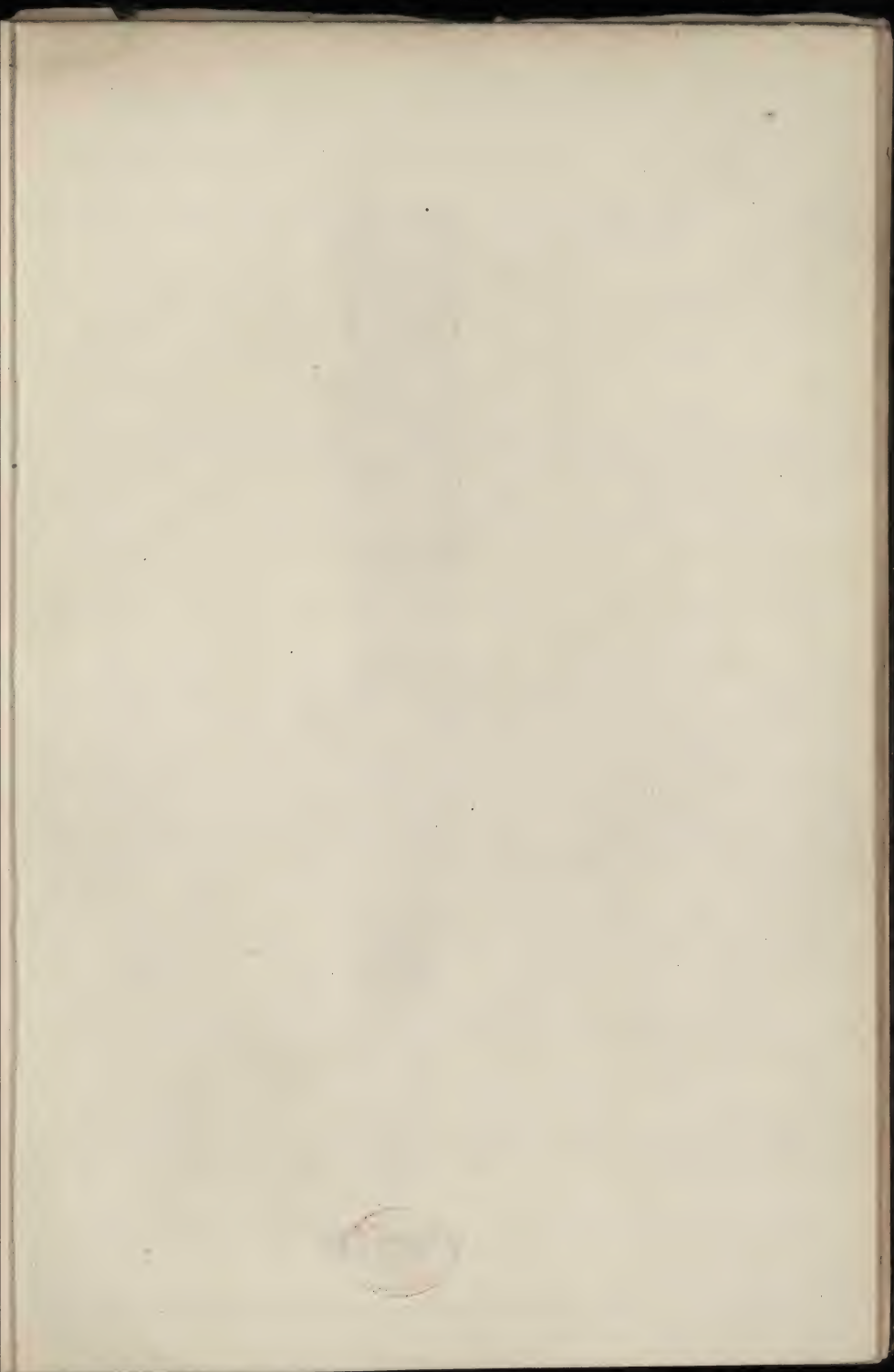


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NATIVE GOLD JEWELLERY OF POONA, BOMBAY.





NATIVE GOLD JEWELLERY OF VIZIANAGRAM, MADRAS.

goodly *parak*, which in fact constitutes her dowry. The silver Celtic brooch, described above, worn in certain of the Himalayan regions, is originally Tibetan.

Allusion has also been made above to the archaic silver jewelry of the Gonds, and at Sambalpur in the Central Provinces large quantities of these rude ornaments both in silver and gold are made.

In the Bombay Presidency the massive jewelry of Ahmedabad, square and padlock-looking, or round and ring-like, prevails all over Gujarat; nose-rings and ear-pendants, armlets, and necklaces, bracelets, zones, and immense anklets covered with bells. In the Dakhan the Marathas wear the graceful head ornaments called *kitak*, *nag*, *chandani*, *phal*, and *mohr*, and an armlet of a peculiar shape caused by giving it a bend by which it more firmly grasps the arm. Their anklets are chain-like, and altogether lighter and more refined than those worn by the Gujarat women. Plate 51 illustrates forms of necklaces and anklets commonly seen about Poona. The Mahommedans and Parsis of Bombay have ornaments peculiar to themselves, the Mahommedans in the Mogol style of India, and the Parsis of the traditional forms of the Sassanian period in Persia, but wrought by Hindu jewellers. Unfortunately, being an energetic, advancing people, the Parsis have, during the last fifty years, begun to give up this national jewelry in favour of the fashionable jewelry of Europe. The *repoussé* gold jewelry of Sawantwadi [Plate 50] in mythological designs is the best in Western India.

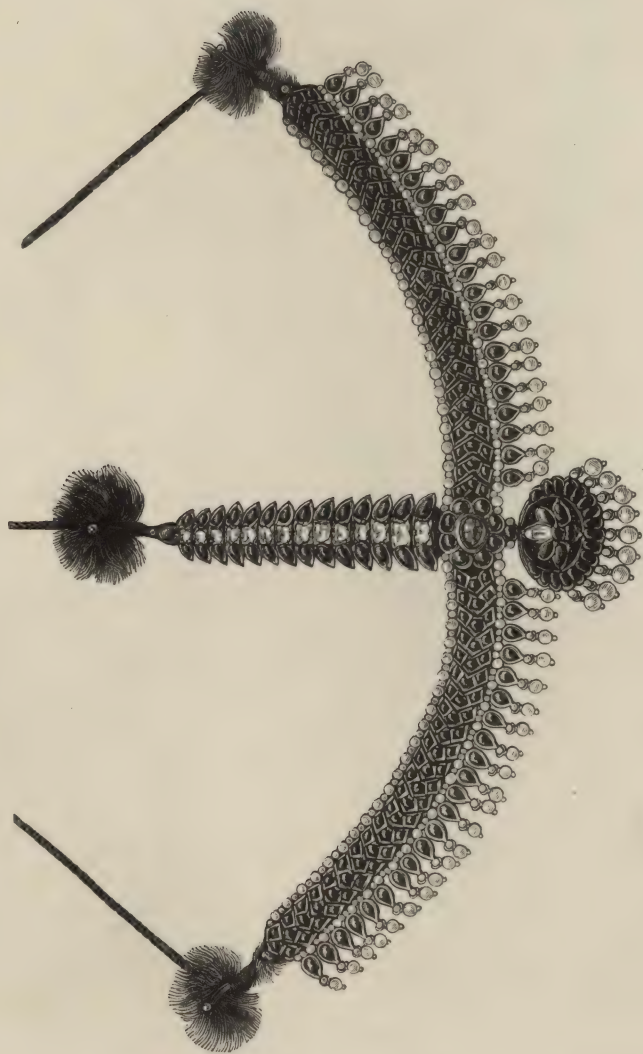
In the Madras Presidency superb gold and silver ornaments are made, as previously stated at Tumkur in Mysore, and at Vizianagram [Plate 52] and Vizagapatam, and also at Tanjore, all in the mythological designs characteristic of Southern India. Among the best artists in this style twenty years ago were Messrs. "Vencatrungaraioo and Son, of Teroovatee, Esver-Pattah," Madras. I used often to see his handiwork in Bombay. The gold jewelry of Trichinopoly, celebrated among Anglo-Indians

has been corrupted to suit European taste ; but nothing can exceed the technical excellence of the rose chains, and heart pattern necklaces and bracelets made in this city. The native jewelry of Trichinopoly [Plates 53 and 54] is similar to that of the Panjab. Silver filigrain work of the best description is produced by the jewellers of Travancore.

The jewelry of Ceylon in filigrain, chasing and *repoussé* work, is remarkable for the delicacy of its ornamentation in granulated gold, in the manner of the antique jewelry of Etruria, and for its exquisite finish.

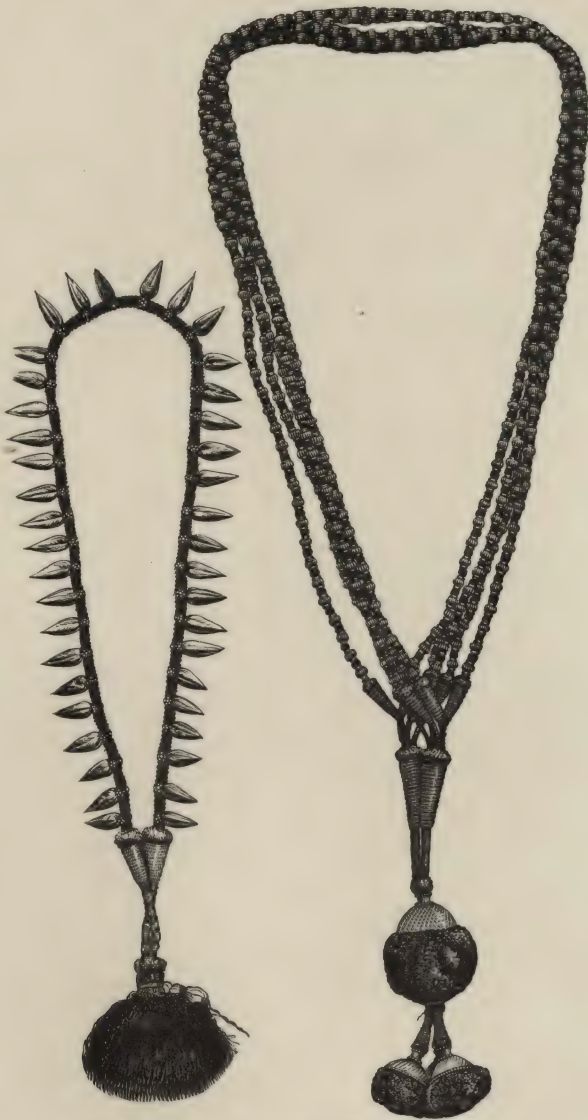
A valuable list of jewels and ornaments worn by Mahommedan women in India is given in Herklot's *Quanoon-i-Islam* : and Mrs. Rivett Carnac's Catalogue of the peasant and savage jewelry exhibited by that accomplished lady at the Annual International Exhibition of 1872, is of very great value. It is printed in the Catalogue of the Indian Department of the Exhibition of that year, which contains several local lists of rare aboriginal jewelry from all parts of India. Mr. Baden Powell, in his *Handbook of the Manufactures and Arts of the Panjab* (Lahore, 1872), gives a complete list of the jewelry of that province, with illustrations of all its characteristic forms.

The few examples of jewelry in the collection of the Prince of Wales' Indian presents are exceedingly choice. The diamonds are particularly interesting. The Hindus value diamonds in jewelry solely for their decorative effect, but they most extravagantly prize them for themselves as a sort of talisman ; and they particularly value them when the natural crystal is so perfect and clear that it requires only to have its natural facets polished. This is what jewellers call a point diamond, and there is a good example of one among the Prince's diamonds. If but slightly ground down it is called a deep table, or more expressively in French a *dou*. This is a very ancient form of diamond, and there is a perfect example of it in the Prince's collection. A flat shallow parallelogram is called a *lasque*, of which there are many examples



NATIVE JEWELLERY OF TRICHINOPOLY MADRAS.

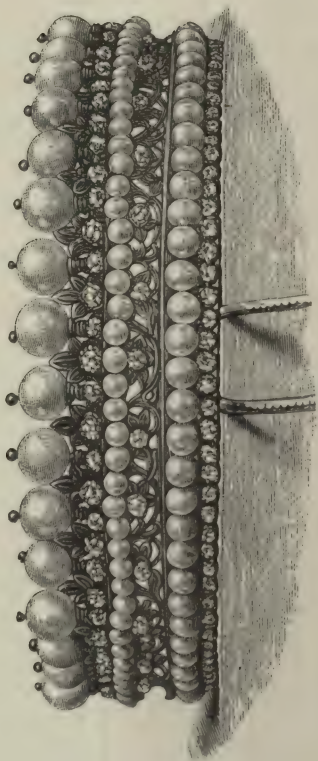




NATIVE JEWELLERY OF TRICHINOPOLY, MADRAS.







HAIR COMB OF PEARLS AND DIAMONDS SET IN ENAMELLED GOLD,
JAIPUR.

mounted on the arms, although most of them are mere chips and scales. The examples of rose diamonds and brilliants are probably of European cutting. The rose is a hemisphere covered with facets, and the brilliant, the ancient *dou*, cut above with thirty-two facets, and below with twenty-four. There are some fine Hindu necklets of pearls and enamel, and "tallow drop" emeralds; and chains, bracelets, and pendants starred with gems; but the loveliest jewel of all is a hair comb made at Jaipur [Plate 55]. The setting is of emerald and ruby Jaipur enamels painted on gold, surmounted by a curved row, all on a level, of large pearls, each tipped with a green glass bead. Below these lovely pearls is a row of small brilliants, set among the elegantly designed green and red enamelled gold leaves which support the pearls; then a row of small pearls with a brilliant-set enamelled scroll running between it and a third row of pearls, below which is a continuous row of minute brilliants forming the lower edge of the comb, just above the gold prongs. It is superb in design, and one of the most finished pieces of Indian jewelry that has been made in modern times. The pearls are of very great price, and the whole effect is most brilliant, rich, and refined.

Sindia's great chain of pearls has been an heirloom in his family for generations. Three of the end pearls in a large pendant of flat diamonds and pearls are worthy of the "triple-gemmed earrings" [*ἑρματα τρίγλῃνα μορόεντα*] of Juno as described by Homer [*Il.* xiv 183]:

"Fair beaming pendants tremble in her ear,
Each seems illumined with a triple star."

And [*Od.* xviii 298]

"Earrings bright,
With triple stars that cast a trembling light."

Gem engraving is an immemorial Eastern art, as the cylinders of Nineveh and Babylon and Persepolis testify, and Delhi has

always been famous for its practice; as was Lucknow also before the abolition of the native court of Oudh. Among the prince's arms is a large emerald magnificently cut as a conventional rose. The old Delhi work in cut and gem-encrusted jade is priceless. The Chinese had cut jade for ages, but never ornamented it except by sculpture; but when it was introduced into India, the native jewellers, with their quick eye for colour, at once saw what a perfect ground it afforded for mounting precious stones, and they were the first to encrust them on jade. The Indian Museum possesses the choicest and grandest specimens of this work known, of the best Mogol period [Plates 56 and 57]. They were exhibited at the Paris Exhibition of 1867.



JEWELLED JADE OF MOGUL PERIOD.



[PLATE 57.]



JEWELLED JADE OF MOGOL PERIOD.



ART FURNITURE AND HOUSEHOLD DECORATION.

IF we may judge from the example of India, the great art in furniture is to do without it. Except where the social life of the people has been influenced by European ideas, furniture in India is conspicuous chiefly by its absence. In Bombay the wealthy native gentlemen have their houses furnished in the European style, but only the reception rooms, from which they themselves live quite apart, often in a distinct house, connected with the larger mansion by a covered bridge or arcade. Europeans, as a rule, and all strangers, are seen in the public rooms; and only intimate friends in the private apartments. Passing through the open porch, guarded on either side of it by a room or recess for attendants, you at once enter a sort of antechamber, in which a jeweller is always at work making or repairing the family jewels. Through the windows, across the court, the Brahman cook is seen among the silver drinking vessels and dishes preparing for the mid-day meal. In the opposite verandah, into which you next pass, some young girls are engaged under a matron embroidering silk and satin robes; and at the end of it a door opens and your host welcomes you heartily into his private parlour. He has sent for a chair for you, but sits on the ground himself, on a grass mat, or cotton *satrangi*, or Cashmere rug, with a round pillow at his back: and that is all the furniture in the room. Up country you may pass through a whole palace, and the only furniture in it will be rugs and pillows, and of course the cooking pots and pans,

and gold and silver vessels for eating and drinking, and the ward-robes and caskets, and graven images of the gods. But you are simply entranced by the perfect proportions of the rooms, the polish of the ivory-white walls, the frescoes round the dado, and the beautiful shapes of the niches in the walls, and of the windows; and by the richness and vigour of the carved work of the doors and projecting beams and pillars of the verandah. You feel that the people of ancient Greece must have lived in something of this way; and the houses of the rich in the old streets of Bombay, built before the domestic architecture of the people was affected by Portuguese influences, constantly remind you, especially in their woodwork, of the houses of the Ionian Greeks, as the learned have reconstructed them from their remains; and the woodwork is the essential framework, the solid skeleton, of native houses in Bombay, and is put up complete before a stone or brick is placed on it. The strict rectangular ground plan also of Bombay gardens, and the orderly and symmetrical method in which they are planted, two different species of trees, it may be the cocoa-nut palm and mango, or the cocoa-nut palm and areca-nut palm, being planted alternately all round the boundary, with other trees, pomegranates, oranges, jasmins, guavas, roses, cypresses, oleanders, and custard-apples, in regular rows and sections, is identical with the ground plans of the ancient Egyptian and Assyrian gardens. Your host has nothing on but a muslin wrapper, for he is about to have prayers performed, and, as he throws the wrapper off his shoulders and head, and girds it round his waist and sits down, a Brahman enters and places the gods and sacred vessels before him, burning incense, and going through the customary forms and ceremonies; while your friend, if you are interested, explains them in their order. So an hour has passed, when a frugal meal, chiefly of unleavened bread and milk, is taken, and then, it being nearly two in the afternoon, an attendant comes in and dresses his master for the Legislative Council, of which he is a member. First he puts on him a soft

close-fitting jacket, and over it a long white cotton robe; then his stockings, of the finest Lille thread, are drawn on, and his feet placed in a pair of elegant French pumps; after which the turban is placed on his head, and a long waistband wound round his waist; and thus arrayed, with a heavily gold-mounted cane in hand, he at last issues forth, clothed, and altogether in another mind, into the outer world of English ideas and fashioning. He will, presently, drive down with you to the Town Hall to talk over the Factory Bill he is so determined to oppose; but meanwhile you must extend your visit also to the drawing-room;—"Which you know you have not seen since I have had it newly done up for the season." The first glance into it is sufficient to convince the most pampered slave of debilitating comfort that, in hot climates at least, furniture is a mistake.

Bombay Blackwood.

It is always the same furniture which is to be seen everywhere in these Bombay houses, made of the *shisham* or blackwood trees [*Dalbergia* spp.], and elaborately carved in a style obviously derived from the Dutch, although it is highly probable that the excessive and ridiculous carving on old Dutch furniture was itself derived from the sculptured idols and temples which so excited their astonishment when they first reached India. The carving is very skilful, but in a style of decoration utterly inapplicable to chairs, and couches, and tables, and looks absolutely hideous when "French polished," an "improvement" introduced during the last twenty years to suit European taste. When, however, this wood is used for the reproduction of the inlaid wooden doors of old Hindu temples, the effect is always good. It is very finely carved also at Ahmedabad into vases, inkstands, and other small objects, which being generally of pure native or pure classical shapes and ornamentation seldom fail to please. The Ahmedabad carpenters have long been famous for their superior skill

in carving blackwood. Many of the best have left Gujarat for Bombay; but in Ahmedabad itself the finest specimens of this work are still to be found. Next to the Ahmedabad carvers, and in some respects with an even higher local name, are the carpenters of the neighbouring town of Dholera. Before the days of railway, it was the chief timber mart in the district. Here Lavana and Vania [Banyan] merchants bring logs of teak from Thana, and of blackwood and sandal-wood from Malabar, and sell them to the district carpenters, who work them up into chairs and tables, and cots and screens, and chests of drawers and almirahs of English fashion; and into handsome well-finished brass-bound boxes, much sought after in Kattiwar and even in the city of Ahmedabad. I once saw in a Parsi house in Bombay some stately blackwood couches, which had been designed in the Assyrian style from Rawlinson's *Ancient Monarchies*. The common jackwood [*Artocarpus integrifolia*] furniture of Bombay, rectangular in its forms, and simply fluted and beaded for its ornamentation, is far superior in taste to the blackwood furniture for which it is celebrated.

Blackwood furniture is extensively made in the city of Madras also, but exclusively of European design.

The cabinet work of Monghyr in Bengal is well known. The principal woods used there are *tal* or palm [*Borassus flabelliformis*] and ebony, and European articles of furniture are made of them which are highly prized in Calcutta.

According to the Brihat Sanhita, a celebrated work on astronomy by Varaha Mihira [quoted by Rajendralala Mitra], which dates from the sixth century A.D., the woods most esteemed by the Hindus of India for furniture are *asana* [*Pentaptera tomentosa*], *syandana* [*Dalbergia Oogeinensis*], *chandana* [*Santalum album*, sandalwood], *haridra* [*Mesua ferrea*], *suradaru* [*Pinus Deodara*], *tinduki* [*Diospyros glutinosa*], *sala* [*Shorea robusta*], *gambhar*, or *kasmari* [*Gmelina arborea*], *anjana* [*Michælia Champaca*—query, *Memecylon tinctorium*]

padmaka [?], *taka* [*Tectona grandis*, teak], and *sinsapa*, [*Dalbergia* sps., or Bombay blackwood]. *Tun* [*Cedrela Toona*], and *phanas* [*Artocarpus integrifolia*], both now much used in Indian furniture, it will be observed are not named in this list. The *Silpa Sastra*, on mechanics and architecture, and some of the *Puranas*, give detailed directions for felling these trees at particular seasons, when their circulation is inactive; and for seasoning the wood afterwards, so as to prevent unequal contractions and cracks in drying. Trees which have been struck down by lightning, or borne down by inundations, storms, or elephants; which have fallen towards the south quarter [*Yama's*]; or which grow on burial, or burning, or other holy ground, or at the confluence of large rivers, or by the public road side; or which are withered at the top, or are entangled with heavy creepers; or which have become the habitation of birds, or bees, &c., &c., may not be used. Some trees, such as the *gambhar*, *asana*, and sandalwood are most auspicious when used singly; others when used jointly, as teak with *sal*, and *haridra* with *kadamba*. *Sinsapa* (i.e. blackwood) and mango-wood should never be used singly, as in the mongrel blackwood furniture of Bombay, Ahmedabad, Surat, and Madras.

Sandalwood is the most auspicious of all woods for furniture, especially when mounted with gold and jewels; but the most prized of all materials, particularly for bedsteads, is ivory. Among the Prince of Wales' Indian presents is an ivory cot from Travancore, a remarkable example of the skill of the ivory turners of that native state. A four-post bedstead of graven parcel-gilt silver, with red and yellow hangings of needle-worked embroidery, is one of the many splendid gifts of the Maharaja of Cashmere. The four-post bed was unknown in ancient India. The bedsteads represented in the sculptures resemble those of the ancient Egyptians, and the modern Indian *char-pai*, or frame of netted rope supported by "four-feet." For men of consequence and wealth the rope netting is replaced by broad bands

of tape stretched and plaited across the frame [*palang*], or by boards of wood or ivory [*takta-post*]; the planks and legs being ornamented with carving and painting, or lacquered decoration, as in the bedsteads of Sindh and the Panjab.

Although chairs are not ordinarily used by the natives of India, they have always been familiar to them as the thrones of kings. Thrones of gold are mentioned in the Rig-Veda, the Ramayana, and Mahabharata. When Bharata returned from his visit to Rama, his mother is represented as springing toward him "from her golden throne." On the old sculptures thrones are seen of the same shape as the hour-glass shaped cane *morahs*, or stools, still made in many parts of India. The general Hindu name for thrones is *rajapatra* and *rajasana*. They are also called *sinha-sana*, or the "lion-seat," a name derived from the figures of lions which were generally carved on their supports. A throne sculptured with the lotus for its supports is called *padma-sinhasana*, or "lotus-seat;" if with an elephant, *gaya-sinhasana*; with a conch-shell, *sanka-sinhasana*; with a goose, *hansa-sinhasana*; with an antelope, *mriga-sinhasana*; or with a horse, *haya-sinhasana*. If it be supported by Vishnu's bird Garuda, it is called *Garudasana*; if by Siva's bull, Nandi, *Brishsana*; and if by a peacock it is called *Karttikeya-sana*. In making thrones, gold, silver, and copper are most used. Iron is condemned, except for seats of incantation. Of stones, gritty sandstone is forbidden; and the colour of any stone used should be that of the planet presiding over the destiny of the person for whom the throne is made. A man born under Saturn should use a blue-colored stone for his throne, or seat; if born under Venus, a yellow stone. Crystal is always an auspicious stone to use. Travelling thrones, like sedans, raised on four poles, to be borne on men's shoulders, and palanquins, for carrying about people in state, are made as light as possible, generally with an ivory framework, with plain or brocaded silk hangings. A silver throne was presented to the Prince of Wales, by a "penny subscription"

among the priests of Madura. It is a striking object, and its ornamentation is reproduced directly from the architectural details of the celebrated temples of that city. The whole art of the Madras Presidency has been in this way influenced by its ecclesiastical architecture, in the same way as the arts of Cashmere have been influenced by the characteristic temple architecture of the valley. A state palanqueen was also presented to the Prince by the Princess Bobili, of Vizagapatam work in ebony and ivory. Although the details of the decoration are European, consisting of scrolls of convolvuluses and fuchsias, etched in black on the ivory, the general effect is most pleasing; and it is very richly and prettily furnished inside. Mr. Wentworth Beaumont, M.P., possesses a deep-seated white marble throne, which is a superb example of the stone-carved work of Jaipur. The golden throne of Ranjit Sing ["the lion of the Panjab," 1798-1839] in the India Museum, is an object of great artistic as well as historical interest. It is of pure Hindu form, like that of the hour-glass shaped cane *morahs*, and of the lotus thrones on which the gods are represented in Indian paintings and sculptures: which were obviously originally suggested by placing one lotus-flower above another, the top one resting on the back of the one below.

The famous "peacock" throne of Delhi has long since disappeared. It was made for the fourth Mogol Emperor, Shah Jahan, A.D. 1627—1658, at a cost of over £6,000,000, and took its name from the peacock with its spread tail, represented in all its natural colours, by sapphires, emeralds, rubies, topazes, and enamel, which formed the chief decoration of the throne, which was itself also a mass of diamonds and precious stones. It was carried off by Nadir Shah when he sacked Delhi, A.D. 1738-9.

Bombay Inlaid Work, and Ahmedabad Mother of Pearl Work.

A good deal of ornamental furniture is also made in "Bombay inlaid work," so familiar now in the ubiquitous glove-boxes, blotting-cases, book-stands, work-boxes, desks, and card cases, which

go by the name of "Bombay boxes." They are made in the variety of inlaid wood work, or marquetry or tarsia, called *piqué*, and are not only pretty and pleasing, but interesting, on account of its having been found possible to trace [see my paper in the *Journal of Bombay Asiatic Society*, vol. vii, 1861-63] the introduction of the work into India from Persia, step by step, from Shiraz into Sindh, and to Bombay and Surat. In Bombay the inlay is made up of tin wire, sandal-wood, ebony, *sappan* [brazil] wood, ivory, white, and stained green, and stag's horn. Strips of these materials are bound together in rods, usually three-sided, sometimes round, and frequently obliquely four-sided, or rhombic. They are again so arranged in compound rods as when cut across to present a definite pattern, and in the mass have the appearance of rods of varying diameter and shape, or of very thin boards, the latter being intended for borderings. The patterns commonly found in Bombay, finally prepared for use, are *chakar-gul*, or "round bloom;" *katki-gul*, "hexagonal bloom;" *tinkonia-gul*, "three-cornered bloom;" *adhi-dhar-gul*, "rhombus bloom;" *chorus-gul*, "square [matting-like] bloom;" *tiki*, a small round pattern; and *gandirio*, "plump," compounded of all the materials used; also *ek dana*, "one grain," having the appearance of a row of silver beads set in ebony; and *pori lihur*, *jafran marapech*, *jeri*, *baelmutana*, *sankru hansio*, and *poro hansio*, these eight last being bordering patterns. The work was introduced into Sindh from Shiraz, about 100 years ago, by three Multanis, Pershotum Hiralal, and the brothers Devidas and Valiram. A number of people acquired the art under them, and about seventy years ago it was introduced into Bombay by Manoredas, Nandlal, Lalchand, Thawardas, Rattanji, Pranvalab, and Narrondas, who educated a number of Parsis and Surat men, by whom it was carried to Surat, Baroda, Ahmedabad, and elsewhere. Fifty masters, all of whose names I have recorded, and about seventy-five apprentices under them, were engaged in the work in Bombay in 1863, of whom Atmaram Vuliram, and Parshostam

Chilaram had been established in the Kalbadavi ward ever since its introduction sixty years before. One of the most intelligent craftsmen at present in the trade is Framji Hirjibhai. In Surat there are thirteen families of inlayers, of whom eight are Parsis and five Hindus. Tin wire is used in Western India in the work instead of brass, as in Persia, where also it is always varnished. The same inlaid work is made in Egypt and Algiers, and it is similar to the tarsia or marquetry of Italy and Portugal, and the Roman work known as *opus cerostrotum*. It is also, I believe, identical with the inlaid work of Girgenti and Salerno, although in this the patterns are floral, and not geometrical, for I found by a comparison of the two varieties in Paris, that there was not a single geometrical pattern in the Bombay work which cannot be traced back to a flower in the work of Girgenti and Salerno. The Egyptians also obviously worked in tarsia. The art is said to have died out of Europe, and to have been again reintroduced at Venice from the East. More probably it remained an unbroken tradition in the Mediterranean, and was revived by the Saracens. At Goa, rare old caskets, coffers, and other examples of it, of the same style as the Portuguese sixteenth and seventeenth century tarsia, and evidently the *chefs-d'œuvre* of patient Hindu hands, are sometimes to be found by the insidious *virtuoso*, but otherwise there is not a trace of such articles, so far as I am aware, in India, except what has come during the last 110 or 120 years from Persia.

Thus I wrote in the *Handbook to the Indian Court*, at the Paris Exhibition of 1878, but it is certain that inlaying in mother of pearl was at one time practised in great perfection at Ahmedabad, although the process is now almost extinct. I never saw any sample of it, but it was apparently identical with *tarsia* work. It is to be found on the wooden canopies over the shrines of Shah Alam at Sarkhej, and on stone in the marble tomb of one of the Sultan Ahmad's queens. "The simpler designs," writes Mr. E. S. P. Lely, in vol. iv. of the *Bombay Gazetteer*, 1879,

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p. 139—"were formed by filing pieces of mother of pearl to the required size, and letting them into the pattern cut into the block of wood. The more elaborate designs were, with fragments of different colored mother of pearl, worked into cement, and laid on the surface to be ornamented. Of the coarser and commoner kinds of inlaying a little is still used for the frames of *tamburas*, *rubabs*, and other guitars and violins. No one now practises the former kinds of inlaying, and only one man supports himself by inlaying musical instruments."

I was not aware of the existence of any remains of this beautiful art in India until I read Mr. Lely's report: and I trust that a successful effort may now be made through the patronage of the South Kensington Museum Department to revive it.

Mr. J. L. Kipling also, in the *Lahore Guide*, 1876, says that "at Hushiarpur" [in the Panjab] "is practised a variety of the ancient Persian craft of inlaying dark wood with ivory. The *certosina* work of Italy is similar."

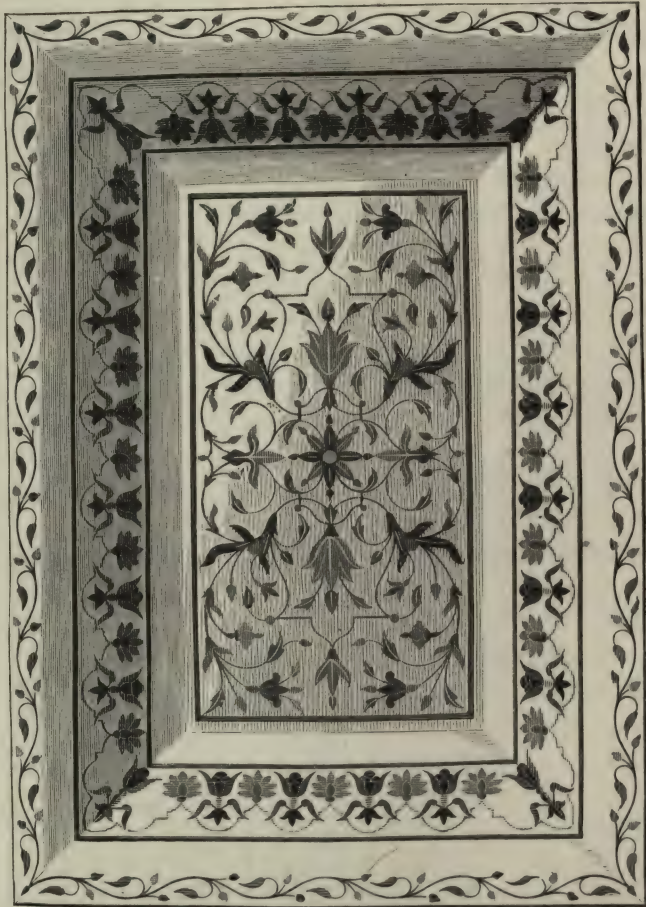
Vizagapatam Work.

Vizagapatam work, in ivory, bison and stag horn, and porcupine quills, is applied to the same class of articles as Bombay inlaying, namely, work-boxes, tea-caddies, desks, chess-boards, and a variety of fancy articles. It is of a very recent origin, and the etching in black, *sgraffito*, on the ivory, is exclusively of European flower forms, represented naturally, in light and shade. The effect is seldom pleasing.

Mynpuri Work.

In Mynpuri work, which is analogous to buhl-work, we find boxes and platters of a rich brown wood inlaid with brass wire in various geometrical and scroll patterns. Sir John Strachey, who has given great encouragement to this local industry, exhibited several examples of it at Paris. It is curiously like the wood inlaid with wire seen in Morocco, and it would be interesting





INLAID WORK OF AGRA.

to inquire after the history of its introduction at Mynpuri, where it goes by the name of *tarkashi*, or "wire work"; a word which suggests the possible etymology of the word *tarsia*.

Inlaid Work of Agra.

The mosaic work of Agra [Plate 58], an inlay of crystal, topaz, pearls, turquoise, carnelian, jade, coral, amethyst, blood-stone, carbuncle, sapphire, jasper, lapis-lazuli, garnets, agates, and chalcedony on white marble, is also chiefly applied to ornamental furniture and household *objets d'art*. It originated in the exquisite decorations of the Taj at Agra [A.D. 1627-1658] by Austin de Bordeaux, and, after almost dying out as a local industry, on the dissolution of the Mogol Empire in 1803, was revived about thirty years ago through the exertions of Dr. J. Murray, late Inspector-General of Hospitals, Bengal. Nearly all the specimens of this work in England, at Windsor and elsewhere, were produced under his fostering care. While Florentine in origin and style, the designs have a thoroughly local character of their own, and, unless influenced by injudicious European direction, adhere strictly to the principles and methods of Indian ornamentation. The mosaic being laid on the brilliant white marble of Jaipur, is liable, however, to look vulgar, unless the stones used for it are very judiciously selected.

In the *Lahore Guide* Mr. Kipling refers to the inlaid work of the city, of the time of the Mogol Emperors, which would appear to be similar to that of Agra. "There is," he writes, "a small though costly marble pavilion, inlaid with flowers wrought in precious stones, and known by the significant name of *Naulakha*, or the building which cost nine lakhs [90,000*l.*]. This delicate and beautiful work belongs to the time of Aurangzib; [the sixth Mogol Emperor, A.D. 1658-1707]. . . . The inlay, much of which has unfortunately been destroyed, is remarkable for

excessive minuteness and finish of execution. In this, as in the later work of most styles of art, mechanical virtuosity [to employ an expressive Germanism] was beginning to usurp the place of originality and purity of design."

The substructures of the palace of Akbar [A.D. 1556-1605] at Agra are of red sandstone, but nearly the whole of its corridors, chambers, and pavilions, are of polished white marble, wrought with mosaics and carvings of exquisite ornament. The pavilions which overhang the river are inlaid within and without in rich patterns of jasper, agate, carnelian, bloodstone, and lapis lazuli, and topped with golden domes. "But the most curious part of the palace," adds Captain H. H. Cole, R.E., in his *Catalogue of the Objects of Indian Art exhibited in the South Kensington Museum*, 1874, "is the *Shish Mahal*, or 'Palace of Glass,' the chambers and passages of which are adorned with a mosaic of mirrors, arranged in geometrical patterns." Captain Cole is unable to determine whether this building was the work of Akbar or of Shah Jahan, but believes that it was built by the latter.

Mr. Kipling minutely describes the examples of this strange mirror mosaic, or *shish*-work, to be seen in the *Shish Mahal* at Lahore. "The building," he says, "is the work of both Shah Jahan and Aurangzib; and the more gaudy portions are due to the later times of the Sikhs. The effect of the *shish*, or mirror mosaic, though brilliant, narrowly escapes the charge of vulgarity. The principle on which the work is constructed, particularly in its application to ceilings, is identical with that of many examples at Cairo, and in other places all over the East. Small pieces of wood of suitable geometrical forms, frequently hexagonal, are cut out and inlaid with bits of looking-glass, more or less gaudily painted, and gilded separately; and when all are ready, they are joined together on the ceiling, and the process is by no means so slow and costly as the finished result would lead one to suppose."

Mosaic obviously originated in pavement, and the introduction of ornamental pavement was probably suggested by Oriental tapestry. A pavement, *pavimentum*, is strictly a flooring [δάπεδον, whence δάπης, and τάπης, a carpet or rug,—laid on the *floor*] or *stratum*, composed of flags, slabs, or pebbles, bricks, tiles, or shells, set in a cement, and beaten down [*pavio*] with a rammer or *pavicula*; and the classical writers [Pliny, Bk. xxxvi] distinguish pavements by different names, according to their situation, structure, and decoration.

The paved floors of rooms and passages were designated *pavimenta subtegulanea*, and pavements in the open air, particularly those laid on the flat roofs of houses, *pavimenta subdialia*. The *pavimentum sectile* was composed of different-colored marbles cut [*secta*] into regular forms, such as *favus*, like the cells [hexagons] of a *honeycomb*; *trigonum*, triangular; *scutula*, rhomb-shaped; and *tessera*, with its diminutive *tessella*, a cube.

All these forms might be not only of cut marble or other stone, but of glass or other composition. The *abaculus* [ἀβακίσκος] was a small tile or die [*tessera*] of glass, or other composition, stained of various colors in imitation of precious stones.

The *pavimentum tessellatum*, or *tesseris structum*, was a sectile pavement, composed of large *tesserae*.

The *pavimentum vermiculatum* was composed of smaller *tesserae*, arranged, not in diapers and geometrical figures, but so as to represent natural objects, as in pictures, by lines of embedded *tesserae*, which necessarily turned and twisted about like the tracks of worms. This vermicular mosaic was divided into *opus majus*, composed of larger *tesserae*, *opus medium*, of smaller, and *opus minus vermiculatum*, composed of very minute and delicate *tessellæ*, almost *spiculæ*.

In the *pavimentum sculpturatum* the marble was cut out in the shape of the figures intended to be represented in the mosaic,

and was further engraved after the manner of the Triqueti marbles in the Albert Memorial Chapel at Windsor.

The *pavimentum testaceum* was composed of broken tiles or potsherds.

The *pavimentum lithostrotum*, literally stone *stratum* or street, was the ordinary pavement of Roman roads, laid with polygonal blocks or flags of silicious lava.

The *pavimentum optostrotum*, literally baked [$\delta\pi\rho\acute{o}s$, *coctus*] *stratum* or street, was a pavement of bricks. Often the oblong bricks were laid in imitation of the setting of the seed grains in an ear or spike of corn [*spica testacea*], or, as we say in England, herring-bone ways, as may be seen in the walls of Pevensey Castle and other old Roman masonry.

Gradually the word *lithostrota* came to signify mosaics in the modern sense exclusively. Thus Pliny (Bk. xxxvi, ch. 25, says : "Pavimenta originem apud Græcos habent elaboratâ arte, picturæ ratione, donec lithostrota expulere eam."

Again, the Greek word for mosaic, $\psi\eta\phi\omega\sigma\iota\varsigma$, from $\psi\eta\phi\omicron\varsigma$, a pebble, also indicates the origin of the art in pavement. The word mosaic is said by Hendrie to be derived from the Arabic *mosque*, but it came into use long before the rise of the Saracens. It is first used by Ælius Spartianus, one of the "Scriptores Historiæ Augustæ," in the biography of Pescennius Niger, A.D. 293 ; and later by Trebellius Pollio, A.D. 320 ; and Aurelius Augustus, A.D. 430 ; and the word is clearly from the Greek $\mu\omicron\nu\sigma\epsilon\acute{\iota}\omicron\nu$, a temple of the Muses ; Latin, *Musium*, *Musivum opus* ; Italian [through the Greek, and not Latin], *mosaico* ; Spanish, *mosaico* ; French, *mosaïque*, and so English, mosaic.

The *Alexandrinum opus* of the third and fourth centuries A.D. was a mosaic pavement laid in elaborate geometrical figures, and the direct forerunner of the characteristic arabesque work of the Saracens. By mosaic proper, *Musivum opus*, has always been understood a picturesque or other ornamental design formed of small pieces of marbles or other stones, or of glass or other

composition, used chiefly for the decoration of walls and ceilings, and personal ornament. This is indicated by the specific Greek name for true mosaic, *ψήφοι χρύσειοι*, evidently referring to the use of gilded glass *tesserae* in the mosaics of the Byzantine period, the manufacture of which [*tesserae*] is so lucidly described by Theophilus the Monk [10th-12th cent. A.D.], Bk. ii, ch. xv, "De vitro Græco quod Musivum opus decorat."

"Vitreas etiam tabulas faciunt opere fenestrario ex albo vitro lucido, spissas ad mensuram unius digiti, findentes eas calido ferro per quadras particulas minutas, et cooperientes eas in uno latere auri petula, superliniunt vitrum lucidissimum tritum ad supra. Hujusmodi vitrum interpositum Musivum opus omnino decorat."

The earliest notice of mosaic is in the Bible in the story of Esther [*circa* B.C. 450], where, in the account [ch. 1] of the six months' feasting held by Ahasuerus [Xerxes] to arrange the third invasion of Greece, we are told [v. 6] in the description of the palace of Shushan, "the beds were of gold and silver, upon a pavement of red [porphyry], and blue [lapis-lazuli], and white [alabaster], and black marble." Mosaic pavements have not been found in the remains of Egyptian, Babylonian, and Assyrian temples and palaces, but true mosaics have been found as a decoration of mummy cases. The Greeks carried the art to marvellous perfection, and Pliny naturally enough ascribes its origin to them. He particularly mentions the *pavimentum asartum* of the Greek artist Sosus of Pergamus, representing the remains of a banquet, shewn on an apparently unswept [*ἀσάρτος*] floor. "The doves of Pliny," represented with one drinking, and the others sunning and pluming themselves round the rim of a water-bowl, are universally known through the copies which have been reproduced of them in all ages and countries. The most interesting and valuable of all the ancient pictorial mosaics which have been preserved to our time is the one which was found at Pompeii, in "the house of Pansa," representing the battle of

Issus. The mosaics of the classical period are severe in design and chaste in coloring, but, as the influence of Indian art gradually spread over the Mediterranean countries, rich colors and even gold were gradually more and more introduced into the mosaics of the Lower Empire, and give them their distinctive character.

After the fall of the Western Empire the art seems to have perished out of Italy, until it was revived in the 13th and 16th centuries, and the revival was through the Byzantine Greeks, as is indicated by the Greek form of the Italian word *mosaico*.

The Saracens had from the first used glazed tiles for covering walls and roofs and pavements, and of course with a view to decorative effect. The use of these tiles had come down to them in an unbroken tradition from the times of the Chaldean monarchy, the Birs-i-Nimrud, or Temple of the Seven Spheres at Borsippa, near Babylon, of the Pyramid of Sakhara in Egypt, and of the early trade between China and Egypt, and the valley of the Tigris and Euphrates. Glazed tiles had, however, fallen into comparative disuse in the East before the rise of the Saracens, and it was the conquest of Chingiz Khan, A.D. 1206-1227, which would appear to have brought about their general use throughout the countries of Islam. That the Saracens indeed derived the art of true mosaic direct from the Greeks is proved by their calling it *sephisa*, from the Greek *ψήφωσις*. When the Caliph Walid invaded Palestine, one of the conditions of peace he made with the Cæsar at Constantinople was that he should furnish a certain quantity of *sephisa*, which he had seen in the church at Bethlehem built by the Empress [St.] Helena, for the decoration of the mosque he was building at Damascus.

The use of inlaid stone in true mosaic work by the Mogols in India was principally due to the revival of the ancient art in Italy. The Italians of the Renaissance developed two distinct forms of inlaying in stone, the Roman mosaic of modern jewellers, which may be compared to the *opus minus vermiculatum*, and

the Florentine, composed of thin slices of different-colored stones, chiefly quartzose, cut to the shape of the form they are intended to represent, the petal of a flower, the wing of a bird, or whatever it may be, and set in white or black marble with cement, of which in good work not a trace should appear between the encrusted stones and the marble, not even when seen through a magnifying glass. It was this Florentine form of mosaic in *pietra dura* which was used by Austin de Bordeaux in the decoration of the glorious Taj-Mahal, and which has become naturalised as a local art at Agra. Austin's earlier work at Delhi appears to have been purely imitative, as may be seen from several specimens of it now in the India Museum. The mosaic representing Orpheus is interesting from its being supposed to be a portrait of Austin himself. It was looted at the recapture of Delhi from the mutineers in 1857, and was purchased for the India Museum from Sir John Jones. At present the chief inlayers at Agra are two Hindus named Nathu and Parusram. The *pavimentum Græcanicum* of Pliny was a concrete composition of charcoal, sand, lime, and ashes, rammed down and polished to represent black marble. Omitting the charcoal, this is pretty much the composition of the "*chunam*" walls and floors, in imitation of white marble, which are seen all over India in superior houses, and in the Madras Presidency in particular are remarkable for their high polish and real look of white marble. The commoner *chunam* stucco, made of *kankar* and pounded sand, is indeed the Roman *arenatum*, and the finer sort, in which pounded marble or calc-spar is substituted for sand, is the Roman *marmoratum*. When this stucco is decorated in various designs, as a sort of false mosaic, it may be compared to the painting in colored plasters which has long been recognised in Europe as a special art. In *al fresco* painting the colours are soaked into the plaster, while it is still damp, and thus the design is indelibly fixed to the hardening surface. In *a tempera* painting the colours, mixed with size to make them adhere, are put on the plaster after it has hardened. Often the background of a

composition is painted in *al fresco*, and the figures of the foreground in a *tempera*. When the plaster is etched, in a manner resembling the *pavimentum sculpturatum*, the work is called *sgraffito*. The term encaustic painting, now used only for the painting of glazed tiles, was first applied to a *tempera* painting, in which the vehicle of the colours used was wax, spread over the surface of the stucco with a heated iron, or "actual cautery."

Sandalwood and other Wood Carving.

Sandalwood carving is chiefly carried on in the Bombay Presidency, at Surat, Ahmedabad, Bombay, and Canara; and in the Madras Presidency, in Mysore and Travancore. It is applied to the same articles as the Bombay inlaid work. Indeed the generic term "Bombay boxes" includes the sandalwood carving of Ahmedabad, Surat, and Bombay, as well as inlaid wood; but wood carving is a far superior art to inlaying, and in India is as ancient as the temple architecture and the carved idols in which it probably originated. The Surat and Bombay work is in low relief, and the designs consist almost entirely of foliated ornament; the Canara and Mysore work [Plate 59] is in high relief, the subjects being chiefly mythological; and the Ahmedabad work [Plate 60], while in flat relief, is deeply cut, and the subjects are mixed floral and mythological; for instance, Krishna and the Gopies, represented not architecturally as in Canara carving, but naturally, disporting themselves in a luxuriant wood, in which each tree, while treated conventionally, and running into the general floral decoration, can be distinctly recognised. A line is drawn below the wood, and through the compartment thus formed a river is represented flowing, as on Greek coins, by an undulating band, on which tortoises, fishes, and water-fowl are carved in half relief. The best Canara carving comes from Compta, and the best



SANDALWOOD CARVING OF CANARA.

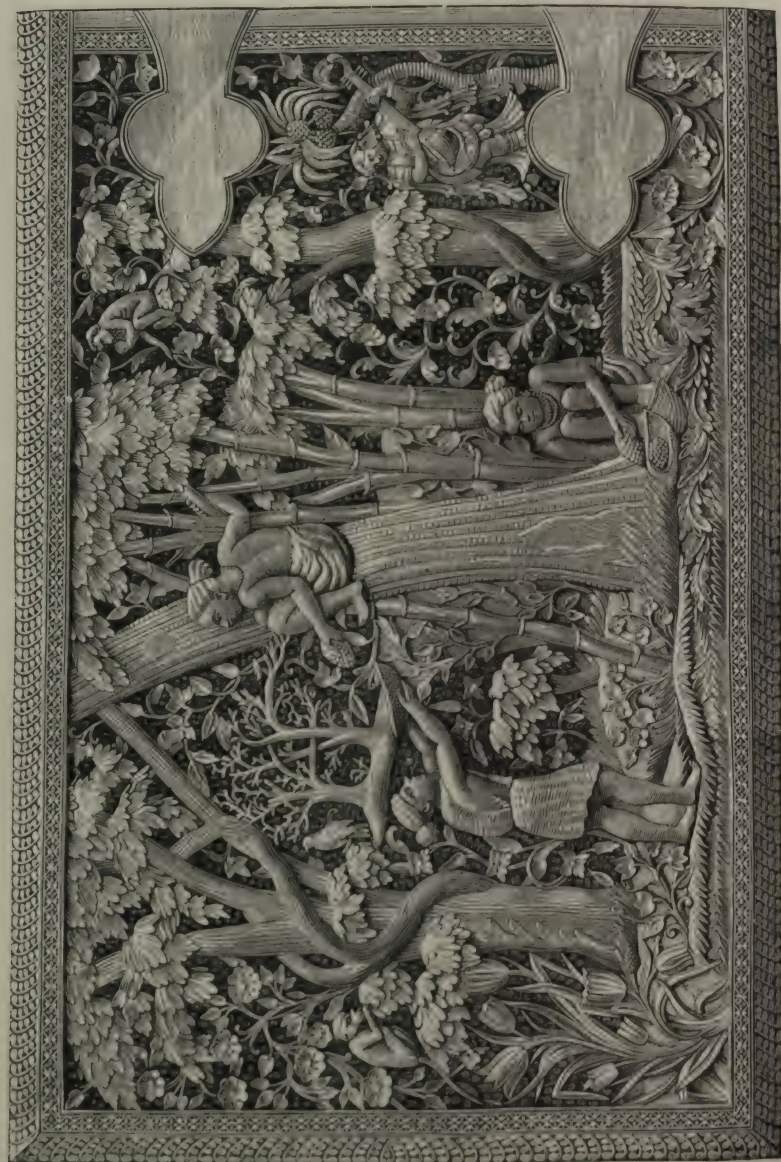




SANDALWOOD CARVING OF AHMEDABAD.







SANDALWOOD CARVING OF TRAVANCORE.

Mysore, which is identical in every respect with that of Canara, from the town of Sorab in the Shimroga district. The most beautiful example of Mysore sandalwood carving ever seen in this country was a little cabinet exhibited by Major Puckle in the Annual International Exhibition of 1871. It was surmounted by a triangular headboard on which were carved Brahma and Saraswati in the centre, and Siva on Nandi on one side, and Siva and Vishnu coalesced in Krishna on the other; the outline of this headpiece being waved in a manner to represent the mystic triliteral monosyllable AUM. On either side of it was an elephant waving a *chauri* in its trunk; and below it a narrow border on which were carved Lakshmi, Parvati, Garuda, Hanuman, and other of the gods, all in a row. On the right door of the cabinet Vishnu on Garuda, with Lakshmi by his side, was represented in the centre, surrounded by the forms of his ten avatars; and on the left door, Siva on Nandi, with Parvati by his side, was represented in the centre, surrounded by the guardians of the eight quarters of the earth, Indra, Agni, Yama, Nirritu (who in Madras always takes the place of Surya), Varuna, Vayu, Kubera, and Isana (who in Madras always takes the place of Soma). The sandalwood carving of Travancore is perfectly naturalistic in style, and Plate 61 represents a characteristic and unique example of it.

A little sandalwood is carved at Morahabad in the North-Western Provinces. Ebony is excellently carved at Bijnur, another town of the Rohilkhand division of the North-Western Provinces, and in a similar conventional style at Monghyr in Bengal. The designs on these boxes are generally geometrical; and latterly I have seen them inlaid with ivory in the manner of the old Sicilian tarsia work.

The blackwood carving of Bombay, Ahmedabad, and Dholera, has already been mentioned. Teak for the beams and pillars, brackets, and door-posts, and the doors of native houses, is carved in the Rajapur and Deogarh *talukas* of the Ratnagiri Collectorate.

Saharanpur, in the North-Western Provinces, has also obtained a name for its wood carving, and the town of Harpanhalli, in the Bellary district of the Madras Presidency. Indeed, wood carving for architectural use is practised with more or less success in almost every village in India. The gods are everywhere carved in wood. Wooden hair combs are also universally carved; and the manufacture of combs in blackwood is a speciality of the villages of Jeswada and Gangdi in the Dohad district of the Panch Mahals in Gujarat. Wooden bracelets are also universally turned, as will be more properly noticed under Lac-work.

Carved Ivory, Horn, and Tortoiseshell.

Ivory is carved all over India, but chiefly at Amritsar, Patiala, and Delhi, in the Panjab; at Benares, Behrampore, and Murshedabad, in Bengal; at Surat, Ahmedabad, Damam, Balsar, and throughout Southern Gujarat, and at Sattara, in the southern Maratha country, in the Bombay Presidency; and at Travancore, Vizagapatam, and Vizianagram, in Madras. The subjects are generally richly caparisoned elephants, state gondolas in gala trim, tigers, cows, and peacocks, carved as statuettes, and hunting, festive, and ceremonial scenes, and mythological subjects carved in relief. The carved ivory combs [Plate 62] found in every Indian bazaar are also most artistic in form and detail. Sylhet, in the Dacca division of Bengal, is noted for its ivory fans; and Ratlam, in Western India, for its costly ivory bracelets. Recently a colony of ivory turners has settled at Kurigram in the Rajshahye division of Bengal. Bison horn is carved into figures and otherwise wrought at Ratnagiri, Sawuntwadi, and elsewhere. Tortoise shell is worked into armlets and bracelets and other ornaments in Gujarat, and in the city of Bombay.



CARVED IVORY COMB, SATTARA, BOMBAY.







CARVED STONE, RAJPUTANA.

Carved Stone.

The agate vases of Baroach and Cambay have been famous under the name of Murrhine vases from the time of Pliny. The best carnelians and agates are found at Ratanpur near Baroach, and are taken to Cambay to be worked into cups, saucers, knife-handles, paperweights, beads, bangles, and other ornaments. Animals are carved in black chlorite at Gaya in the Patna division of Bengal; and in white marble and reddish sandstone [Plate 63] at Ajmir and other places in Rajputana; and we find the same truth of representation in these stone carvings as in the best ivory carvings of Amritsar, Benares, and Travancore. In Rajputana also idols are largely carved in white marble, and brilliantly colored in red, green, yellow, and blue paint and gold. Jade is still carved in Cashmere. At Fattehpur Sikri models in soapstone are made of the celebrated Mahommedan ruins of that city; and it is also carved into ornamental dishes, inkstands, and other objects. Soapstone ornaments are also made at Gohari in the North-Western Provinces. In Singbhum and Manbhum, in the Chota-Nagpur division of Bengal, there are large masses of soapstone, which the people have for ages worked into platters and cups. On the Nilgiri estate close to Balasore in Orissa, a black chlorite is obtained which is also worked into cups and dishes. Soapstone and potstone ware are manufactured at Tambulghata, and at Kanheri and Pendri, in the Central Provinces. At Nagpur, where in former times the art of stone and wood carving reached a high degree of perfection, there are still many excellent stone carvers among the masons. The art has to a certain extent fallen into disuse, but efforts are being made to revive it. The Chanda masons also are very skilful in carving stone. The stone carvers of Katch and Kathiwar are celebrated all over Western India.

The early Mahommedan architecture of Ahmedabad has been remarkably influenced by these clever Hindu masons. Afterwards the taste of their Mahommedan masters reacted on their own work, as is strikingly seen in the Jaina temples of Palitana and other parts of Gujarat. At Malwan and Patgaum, in the Ratnagiri Collectorate of the Bombay Presidency, a soft slaty stone is carved into cups after the schistose models imported into Western India from Persia. The masons of Sargiddapanam in Nellore [Madras] are noted for their stone sculpture on the native towers called Galegopurams; and those of Buchereddipalem for their sculpture on the granite pillars of the local temples. The masons also of Udayagiri in this district are skilled in stone carving. The masons of Tumkur in Mysore are specially noted for the stone idols they carve. Stone jugs are largely manufactured at Kavaledurga in Mysore.

Captain Cole, R.E., who has paid special attention to the ancient stone sculptures of India, in his *Catalogue to the Objects of Indian Art exhibited in the South Kensington Museum*, 1874, classifies them in the two divisions :—

I. Statues and bas-reliefs.

II. Decorative sculpture for architectural purposes.

Under the head of statues and bas-reliefs he enumerates :—

1. The Buddhistic figure sculptures of the Asoka edict pillars, and of the Sanchi and Amaravati topes; and the Græco-Buddhistic remains in the Peshawur district.

2. The Jaina sculptures, of the twenty-four hierarchs of that sect in Rajputana—at Gwalior, at Benares, Mahoba, and in Bandelkhand.

3. The Brahmanical bas-reliefs of Pandrethan and Marttand in Cashmere, Bindraband, at Eran and Pathari near Bhilsa, at Khajuraho in Bandelkhand, and at Puri in Kattack.

4. The Mahommedan sculptures, consisting of the two carved elephants which formerly stood outside the gates of Delhi, and similar statues at Fattchpur Sikri and Ahmedabad.

The best examples of decorative sculptures are :—

1. The Buddhist, of the Sarnath, Sanchi, and Amravati topes, and the caves of Ellora, Kanheri, and Ajanta.

2. The Jaina, of the temples of Mount Abu, at Khajuraho, the ancient capital of Bandelkhand, at Sonari, and in the fort at Gwalior.

3. The Brahmanical at Avantipur in Cashmere, of the temples at Benares, and at Brindaband, at the Kutub at Delhi, of Trimul Naik's Choultri at Madura, and of the Kylas at Ellora.

4. The Mahommedan, namely :—

(a) The Pathan, decorative carving of Kutub-ud-din's gateway at Delhi, A.D. 1193; the Kutub Minar, at Delhi, A.D. 1200; and the palace at Ahmedabad.

(b) The Mogol, of the palaces at Fattehpur Sikri, and the Taj Mahal at Agra.

According to Captain Cole, the elaborate Hindu carvings which covered the massive stone masonry of the temple of Avantipur in Cashmere, and which were of the ninth century of our era, supply the examples to which northern Hindu sculpture of the present day owes much of its origin. The quaint horizontal decorative treatment of Hindu sculpture in the tenth century pillars of ancient Delhi enters into the modern designs of that city; and the twelfth century surface ornamented bas-reliefs of the Pathans at the Kutub are still commonly the types of Delhi art. In the Bombay Presidency the Jaina carvings of Vimala Sah's temple at Mount Abu, erected *circa* A.D. 1032, indicates the origin of much that characterises modern Bombay carvings; while the Mahommedan Ahmedabad buildings of the fifteenth century point clearly to the art which gave birth to the ornament which is so prolific at that place. At Madras the carvings on the pillars of Trimul Naik's Choultri, executed in the early part of the seventeenth century, are good illustrations of the source of the modern art of Madras.

Clay Figures.

Figures in clay, painted and dressed up in muslins, silks, and spangles, are admirably modelled at Kishnaghur, Calcutta, Lucknow, and Poona. Fruit is also modelled at Gokak, and other villages in the Belgaum Collectorate of the Bombay Presidency, and at Agra and Lucknow. The Lucknow models of fruit are so true to nature as to defy detection until handled. The clay figures of Lucknow are also most faithful and characteristic representations of the different races and tribes of Oudh; and highly creditable to the technical knowledge and taste of the artists. They are sold on the spot at the rate of four shillings the dozen. Wall brackets, vases, clock-cases, and other articles are also manufactured out of the tenacious clay at the bottom of the tanks in Lucknow; but the style, being modelled after the Italian work which is to be found all over Lucknow, the old Oudh Nawabs having largely employed Italian sculptors in the building and decoration of their gardens and palaces.

It is very surprising that a people who possess, as their ivory and stone carvings and clay figures incontestably prove, so great a facility in the appreciation and delineation of natural forms should have failed to develop the art of figure sculpture. Nowhere does their figure sculpture shew the inspiration of true art. They seem to have no feeling for it. They only attempt a literal transcript of the human form, and of the forms of animals, for the purpose of making toys and curiosities, almost exclusively for sale to English people. Otherwise they use these sculptured forms only in architecture, and their tendency is to subordinate them strictly to the architecture. The treatment of them rapidly becomes decorative and conventional. Their very gods are distinguished only by their attributes and symbolical monstrosities

of body, and never by any expression of individual and personal character.

So foreign to the Hindus is the idea of figure sculpture in the æsthetic sense, that in the noblest temples the idol is often found to be some obscene or monstrous symbol. It is owing, I believe, to the very fact of their being condemned to a strictly ritualistic representation of their gods, that the feeling for the higher forms of sculpture has been destroyed in them. How completely their figure sculpture fails in true art would be seen at once if they attempted to produce it on a natural or heroic scale; and it is only because their ivory and clay and stone figures of men and animals are on so minute a scale that they excite admiration. Their larger figure sculpture is indeed never pleasing, except when treated conventionally. It is a strange failing.

Lac Work.

Lac work is a great and widely-extended industry in India. The shell lac itself is manufactured on a large scale in many parts of Bengal. There is a lac manufacture at Elambazaar in Beerbhum in the Bardwan division; and there are several factories in the Lohardugga district of Chota-Nagpur and along the banks of the Parulia, between Jhalda and Ranchi in the Manbhum district of the same division. Large quantities of stick lac are also drawn from Chota-Nagpur, and from Raipur and Sambalpur in the Central Provinces. The higher class of lac work, applied to furniture and house decorations, is centred in the great towns; but the making of variegated lac marbles, and lacquered walking sticks, lac mats, and bangles and lacquered toys is carried on almost everywhere, even by the wandering jungle tribes. The variegated balls and sticks are made by twisting variously colored melted sealing-wax round and round the stick or ball from top to bottom in alternate bands. Then the stick or ball

is held before the fire, and with a needle or pin short lines are every here and there drawn perpendicularly through the bands of sealing-wax, drawing the different colors into each other, when the stick or ball is rapidly rolled on a cool, smooth surface, and that intricately variegated effect is produced which is so puzzling until explained. The netted mats are made by allowing the thread of sealing wax twisted round a stick to cool, and then drawing off the whole coil, and breaking it into sections of three or four turns each, which are linked together into "mats" of all sorts of variegated colours, but chiefly scarlet and black, and black and golden yellow. I describe the process from actual observation.

Mr. Baden Powell has given a full description of the manufacture of lac bracelets and ornamental beads at Delhi and other places in the Panjab. To "silver" the lac bracelets tinfoil is mixed with half its weight of dry glue, and these are pounded together until, in about six hours' time, they amalgamate. The mass is then thrown into hot water, when it crumbles into little pieces. They then stir this up and pour off the water, repeating the operation until any dirt or impurity in the water entirely disappears. When the solution is quite pure, it is boiled, and then let to stand for the night. The next morning a silvery glue is found deposited, and this is spread with a brush on the lac, and burnished when dry by rubbing with a string of glass beads. The golden varnish is made by boiling myrrh, copal, and sweet-oil together and applying with a brush. The lac bracelets are often further ornamented, by having little glass beads and bits of tin or copper foil stuck along the edge.

Mr. H. A. Acworth has also minutely described the interesting manufacture of lac bracelets in the district of the Panch Mahals in Gujarat. He says it is the only industry of special interest at Dohad. The lac is collected by the Bhils in the neighbouring forests of Ali Rajpur, Udaipur, and Devgad Bariya and sold by

them to the Vania [Banyan] grain dealers, who again sell it to the town manufacturers of this work. As the bangles are separately formed they are slipped over the oily conical head of a rice pounder, which is about the size of a woman's forearm. When it is about half-covered with rings, they are all carefully heated, so that without melting they may stick to each other; this done the set of rings [25 go to the set], now forming a single bracelet, is rubbed with brick powder, and polished with copal varnish colored vermilion or blue or yellow. The next step is to print a pattern on the cylinder of bracelets. For this purpose two ounces of thin tin and a small lump of glue are pounded together all day until they form a dull grey metallic paste. Next day it is boiled in a copper vessel over a slow fire, and the solution strained through a coarse cloth, when it is ready for use. Meanwhile cottonwool is tightly wound round a small piece of bamboo, and so wetted and pressed that it becomes hard enough to have a pattern impressed on it with a large iron needle. This cotton stamp is now taken, dipped in the tin water, and being pressed on the cylinder of bracelets prints its pattern on them. Then once a day for three days a varnish is applied which turns all the white dots of the tin pattern into a beautiful golden colour. Lastly the pattern is completed by studding the bracelet with drops of tin water made red with vermilion, or white with chalk. These bracelets are sold for less than a half-penny each. They are formed in imitation of the ivory bracelets of Ratlam, and are worn by the Vania women throughout Malwa, and by the Dahod ladies of the Rajput caste. Beside bracelets, yellow and red striped armlets, called *golias*, worn between the elbow and shoulder, are made. The industry gives employment to nine families at Dahod, and six at Jhalod. Half of them are Mahommedans, and half Hindus. Lacquered wooden bracelets and wooden toys, and other lacquered turnery are made also at Ahmedabad and Surat in the Bombay Presidency, and in the Madras

Presidency at Charnapatna in Mysore, and Harpanhalli in the Bellary district. Beautiful lac ornaments for women are made at Ellichpur in Berar; and by the wandering tribes about Lalatpur in the North-Western Provinces.

The lacquered wooden and *papier mâché* Indian boxes and trays, now being largely imported into England, are of several distinct kinds.

The *Sindh* boxes are made by laying variously colored lac in succession on the boxes while turning on the lathe, and then cutting the design through the different colours [Plate 64]. Other boxes are simply etched and painted with hunting scenes, or natural or conventional flowers, and varnished [Plate 65]. Plate 66 illustrates the style of lacquering usually applied in Sindh to the legs of bedsteads [*char-pai*].

The *Panjab* boxes are distinguished by the purple-colored lac used on them. They are made chiefly at Pak-Patan, and in the Derajat. The *Panjab papier mâché* articles are made at Mazaffargarh.

The *Rajputana* boxes have generally a drab ground, decorated with conventional, almost geometric, flower forms, of two colours, or two forms arranged in the alternate rhythmical manner which is seen throughout all Indian decoration.

The lacquered *papier mâché* of *Cashmere* is the choicest in India, and inferior to only the very best Persian. It is applied to native pen cases and boxes in two styles of decorations; the shawl [cone] pattern, which is done in many colours, and is not pleasing on large objects, such as tables and chairs; and the flower pattern, rose, narcissus, pink, and jasmine, drawn in their respective natural forms and colours, but without light and shade.

In the North-Western Provinces *Bareilly* is celebrated for its black lacquered and gilt furniture, for which there is a considerable demand in Calcutta.

The lacquer work of *Karnul*, applied to large trays and boxes,



LACQUERED BOXES, SINDH.





LACQUERED BOXES, SINDH.







LACQUERED LEG OF BEDSTEAD, SINDH.





LACQUERED WORK OF KARNUL.

is embossed with flowers, painted generally on a green ground, and lighted up with gold [Plate 67].

The lacquer work of *Sawantwadi* is applied to native toys, such as models of hand-mills, weights and measures, cooking utensils, and vessels for eating and drinking, and to the peculiar fans of the country, and Hindu playing cards. These last are circular, and being painted with mythological subjects in bright colours, are most pleasing objects, and interesting also as illustrating the state of the art of painting in India, in districts where it has remained uninfluenced by European teaching and example.

In *Mysore*, and elsewhere in the Dakhan, there is a sort of lacquer-ware in which the ground is painted in transparent green on tinfoil, and the subjects, generally mythological, being painted on this shining background in the brightest opaque colours, the effect has almost the brilliancy of the jewelled enamels of Jeypur. Several examples of it are exhibited in the India Museum. One, a box, is painted on the two sides with all the guardians of the eight quarters of the world in procession:—Indra, Agni, Yama, and Nirritu on one side; and Varuna, Vayu or Pavana, Kuvera, and Isana on the other. At the two ends are scenes from Krishna's life, his hiding in a tree with the *gopis'* clothes at one end, and his triumph over the serpent Kaliya at the other. On the panel of the cover are Brahma and Saraswati, attended by Hanuman, the monkey king, and Jambavat, the king of the bears, in the centre, and Siva and Krishna and Vishnu and their wives, on either side of them: while round the rim of the cover runs the perpetual sport of Krishna with the *gopis*.

Delhi Paintings.

The Ajanta Cave frescoes, and those of the caves of Bagh in Malwa, are a sufficient proof of the ancient aptitude of the natives of India for painting. They are quite equal in merit to the paintings of the same age in Europe, and have a strange resemblance in many ways to the almost contemporary frescoes of the catacombs at Rome. Mr. J. L. Kipling, in the articles which he has contributed to the *Lahore Guide*, 1876, refers with the highest approbation to the fresco painting on the walls of the Mosque of Wazir Khan in that city :—"This work, which is very freely painted and good in style, is true fresco painting, the *buono fresco* of the Italians, and like the inlaid ceramic work, is now no longer practised, modern native decoration being usually *fresco secco*, or mere distemper painting. The reason of this is that there has been no demand for this kind of work for many years. Though the builder was a native of the Panjab, the style is more Perso-Mogol, and less Indian than that of any other building in this city."

Pictorial painting of a rude kind is practised everywhere in India, and is produced in extraordinary quantities on the occasion of the annual festivals of the different gods. The paintings on talc sold at Patna, Benares, and Tanjore are often seen in this country. But the best, and widest known of all are the Delhi paintings, on ivory, in the style of European miniatures, already mentioned under jewelry. They are often of great merit. The first Delhi painter of my time in Bombay was Zulfikar Ali Khan, on whose work I officially reported in 1863, and who I find from Captain Cole's admirable *Catalogue of the Objects of Indian Art formerly exhibited at South Kensington Museum*, sent the best Indian miniatures to the Annual International Exhibitions of 1871 and 1872. Mr. Baden Powell

mentions the names of Ismail Khan and Ghulam Husain Khan as the best miniature painters of Delhi at the time he wrote, 1872.

Mica is worked in the north of Khurruckdiha in Chota Nagpur, and exported both to Calcutta and Bihar in large quantity, both for painting and for the ornamentation of the beautiful *tazzias*, or *tabuts*, the models of the tombs of Hasan and Husain at Kerbela, which are borne in the annual procession of the Moharram by the Shiah Mahommedans of India.

Miscellaneous Small Wares.

Trinketry.—In all parts of India imitation jewelry and other trinketry, already referred to under ivory carving, lac work, &c., is made. In Dacca, bracelets are also made from chank shells, imported from the Maldive and Laccadive islands. They are sawn into semicircular pieces which are joined together, and carved and inlaid with a red composition. The manufacture of shell bracelets in Sylhet gives employment to a large number of people. At Poona and other places bracelets and necklaces and chains are made of some sort of perfumed composition, and also of various seeds, as the scarlet and black seeds of the *ganja* or *gunch* [*Abrus precatorius*], the flat black seeds of the *talapota* or *turwar* [*Cassia auriculata*], the red seeds of the *rukta chandan* or red saunders [*Adenantha Pavonina*], the mottled seed of the *supari* or betel-nut palm [*Areca Catechu*], the oval seeds of the *bhirli mar* [*Caryota urens*], and the deeply sulcated seeds of the *rudraksh* [*Eleocarpus Ganitrus*], which are also worn as a necklace by the Saivas and Mahommedan *fakirs*.

The manufacture of mock ornaments for the idols is a very prosperous industry in most large Indian cities. These ornaments

are for the most part made of paper, cut into various shapes, and stuck over with bits of many-colored tinfoil, peacock's feathers, &c. Ahmedabad is specially mentioned by Mr. F. S. P. Lely in the *Bombay Gazetteer*, 1879, as celebrated for this manufacture. There the great day for the sale of these ornaments is the birthday of Krishna. The rich will sometimes spend as much as 25*l.* in decking out a single image of the god with this paper trinketry, which perishes as soon as used. Another article much in demand on that day is enamel. One of the chief enamelled articles made are gods' eyes, almond-shaped pieces of white enamelled silver, with a black pupil.

Feathers.—At Poona, peacock's feathers are made up with cuscus grass [*Andropogon Calamus-Aromaticus*], green beetle's wings, and spangles, into fans and mats.

Leather.—Curious toys, figures, and artificial flowers are made by a single family of the shoemaker [*muchi*] caste at Nursapur in the Godavari district. They are very like those made at Condapilli in the Kistna district.

In India shoes are valued not so much for the soundness of their leather as the beauty of their ornamentation; and formerly a great industry in gold embroidered shoes flourished at Lucknow. They were in demand all over India, for the native kings of Oudh would not allow the shoemakers to use any but pure gold wire on them. But, when we annexed the kingdom, all such restrictions were removed, and the bazaars of Oudh were at once flooded with the pinchbeck embroidered shoes of Delhi, and the Lucknow shoemakers' occupation was swept away for ever by the besom of free trade.

Bengal ladies use a toilet box made of leather, and cloth, ornamented with shells, for holding their pomades, and the *kohl* with which they blacken their eyelids; and the little compressed cakes of cotton dyed with saffron and lac-dye, which they use for staining their hands and feet; and in the case of married women the red lead for painting the forehead just where the hair is parted.

It generally contains also the iron bracelet which married women always carry about with them to ensure long life to their husbands.

In the Panjab, at Sirsa, Simla, Kangra, and elsewhere, *huka* stands, water bottles, and other articles of household use are wrought of plain leather, ornamented with strips of green leather and bright brass mountings.

Ornamented slippers, and sword sheaths are made throughout Rajputana, and slippers for the Mahommedans at Shikarpur, in the North-Western Provinces. Green slippers are worn only by Shiahs, and not by Sunnis. Chanda and Brahmपुरi have a great reputation in the Central Provinces for the manufacture of native slippers. The slippers made at Molkalmuru are also noted in Mysore. In the Bombay Presidency, Poona, and Rajapur in the Ratnageri collectorate, are specially named for this industry. In Gujarat beautifully embroidered leather mats are made. The leather shields of Ahmedabad have been mentioned under Arms.

It is indeed quite impossible to enumerate all the smaller village wares of India, although they are the most interesting of all, illustrating as they do the infinite variety in unity of the decorative art of India.

Leather work is a very ancient art in India. Bharata, during Rama's absence, places his brother's shoes on the vacant throne of Ayodhya, and daily worships them. Menu expresses great repugnance to any one stepping into another man's shoes, and forbids it.

Pith-work.—Artificial flowers, models of temples, &c., are made in many parts of India of the pith of *sola*, or *Æschynomene aspera*, of which also the "sun hats" worn by Europeans in India, and called "solar" *topis*, by a natural corruption of the native name of the plant, are made. In Madras highly elaborate and accurate models of the great Dravidian temples of Southern India are made of this pith.

Bamboo work.—Very artistic bamboo work is made at Monghyr, in Bengal.

Toys.—Indian toys are often very beautiful. The principal places of their production have been named under Lac work. Among the Prince of Wales' presents are two models of carriages, one drawn by cream-colored bullocks, and the other by cream-colored horses; both looking as if they had just stepped out of an illuminated page of the Ramayana or Mahabharata.

MUSICAL INSTRUMENTS.

INDIAN musical instruments are remarkable for the beauty and variety of their forms, which the ancient sculptures and paintings at Ajanta shew have remained unchanged for the last two thousand years. The harp, *chang*, is identical in shape with the Assyrian harp represented on the Nineveh sculptures, and the *vina* is of equal antiquity. The Hindus claim to have invented the fiddle bow. At Kalka, in the Ambala district of the Panjab, the "Jew's harp," *mu-chang* ["mouth-harp"], is made at certain seasons of festivity and sold by hundreds. Musical instruments are made in most of the large towns and cities, and those of Srinagar [Cashmere] and Delhi in the Panjab, of Murshedabad in Bengal, and of Tumkur in Mysore, are especially prized. They are also made of marked excellence at Parashram and Malwan, both in the Ratnagiri collectorate of the Bombay Presidency. Delhi, Bareilly, and Channapatna in Mysore are noted for the manufacture of wire for musical instruments. The conch shell used in India as a wind instrument is often beautifully mounted in silver and gold. It is the *Turbinella rapa* of naturalists, and all that is required to make it sonorous is to drill a hole through its base. When blown into, the wind passing through the different whorls, produces a loud, sharp, and piercing sound, which is heard far and wide, and hence its great esteem as a war trumpet. It is used in religious services also to call the attention of the gods to the worshippers; and also at the conclusion of certain ceremonies. The conch shell used for pouring water on the gods is a smaller one, the *Mazza rapa* of naturalists. Both these species, and a third, the *Voluta gravis*, are used in the manufacture of the shell bracelets of Dacca.

WOVEN STUFFS, LACE, FINE NEEDLEWORK, CARPETS, FELTS,
AND FURS.

ITS marvellously woven tissues and sumptuously inwrought apparel have been the immemorial glories of India. India was probably the first of all countries that perfected weaving, and the art of its gold brocades and filmy muslins, "comely as the curtains of Solomon," is even older than the Code of Manu. Weaving is frequently alluded to in the Vedas. Ushas is the daughter of Heaven, "clothed with radiance." In the hymn in which Trita prays to be released from the well in which he is confined he says, "Cares consume me as a rat gnaws a weaver's thread." In the hymn to Apris occurs the line:—"Day and Night spread light and darkness over the extended earth like two famous female weavers weaving a garment." The Yajur Veda mentions gold cloth, or brocade, for a counterpane. No information is given in the Rig Veda of the materials of which clothes are made; but in the time of the Ramayana and Mahabharata, cotton, silken, and woollen stuffs are constantly mentioned. In the Ramayana the nuptial presents to Sita, the bride of Rama, from her father, consisted of woollen stuffs, furs, precious stones, fine silken vestments of divers colours, and princely ornaments, and sumptuous carriages. The Ramayana gives no names of places where particular articles of clothing were made; but in the Mahabharata, in the enumeration of the presents which the feudatory princes brought to Yudhisthira, as

their Lord Paramount, mention is made of furs from the Hindu-Kush, of woollen shawls of the Abhiras from Gujarat, and of clothes of the wool of sheep and goats, and of thread spun by worms, and of plant fibre [*hemp*], woven by the tribes of the North-Western Himalayas; of elephant housings presented by the princes of Eastern Hindustan; and of pure linen [*muslin*], the gift of the people of Gangam, the Carnatic and Mysore. Weaving and dyeing are continually mentioned in the Code of Manu; and in other ancient works black cloth is appropriated to the Indian Saturn, yellow to Venus, and red to Mars. In the ancient sculptures the women are represented both in richly embroidered brocaded robes, and in muslin so fine as to fully expose their form, the lines of its folds, or of its silk and gold edging, traced across their bodies, being the only evidence that they are clothed. On the Ajanta Cave paintings the women's robes are blue, which still is a favorite colour with Indian women. The Hindu poets are very eloquent on the charming effect of a fair [sienna complexioned] woman dressed in blue, likening it to that of a dark cloud lighted up by the radiant fire of beauty. One of the most ancient epithets of Vishnu is *pitambara*, "clothed in yellow garments." The Indian hermits, in the oldest mention of them, are required to wear clothes of yellow ochre colour, all others being free to wear any colour of vesture they please. When the Greeks with Alexander arrived in India, they noticed that the garments worn by the people were made of "tree wool," or "wool produced in nuts;" and Megasthenes [Strabo, xv, 1, 53-56 and 69], adds, "their robes are worked in gold, and ornamented with various stones, and they wear also flowered garments of the finest muslin." No conventional ornament is probably more ancient than the colored stripes and patterns we find on Indian cotton cloths, and the cotton carpets called *satrangis*. In the *kincobs*, or silk brocades, the ornamental designs betray conflicting influences. It is very difficult to say when silk weaving passed from China into India,

and it would appear as if there were no conclusive evidence of its having been known in Western Asia until Justinian introduced it in the sixth century through Persia from China. But there is no doubt that the brocades of Ahmedabad and Benares and Murshedabad represent the rich stuffs of Babylon, wrought, as we know they were, with figures of animals in gold and variegated colours. Such brocades are now a speciality of Benares, where they are known under the name of *shikargah*, happy "hunting grounds," which is nearly a translation [Yule, *Marco Polo*, i, 63] of the name *thard-wahsh*, or "beast hunts," by which they were known to the Saracens. Fine weaving probably passed from India to Assyria and Egypt, and through the Phœnicians into Southern Europe; and gold was inwoven with cotton in India, Egypt, Chaldæa, Assyria, Babylonia, and Phœnicia, from the earliest times, first in flat strips, and then in wire, or twisted round thread, and the most ancient form of its use is still practised all over India. In Exodus xxxix, 2 and 3, we read: "And he [Aholiab] made the ephod of gold, blue and purple and scarlet, and fine twined linen. And they did beat the gold into thin plates, and cut it into wires" ["strips" it should be translated], "to work it in the blue and in the purple and in the scarlet, and in the fine linen, with cunning work." The inspired Psalmist, in setting forth the majesty and grace of the Kingdom of God [Psalm xlv], says, "Upon thy right hand did stand the Queen of Ophir. . . . The king's daughter is all glorious within, her raiment is of wrought gold." Almost at the same time Homer describes the golden net of Hephæstus [*Od.* viii, 274]:

"Whose texture e'en the search of gods deceives,
Fine as the filmy webs the spider weaves."

Pliny [Bk. viii, ch. 74] also tells us, "But to weave cloth with gold was the invention of an Asiatic King, Attalus, from whom the name Attalic ["*Attalica vestis*," "*Attalica tunica*," "*Attalicus*

torus” was derived, and the Babylonians were most noted for their skill in weaving cloths of various colours. Of course the excellence of the art passed in the long course of ages from one place to another, and Babylon, Tarsus, Alexandria, Baghdad, Damascus, Antioch, Tabriz, Constantinople, Cyprus, Sicily, Tripoli successively became celebrated for their gold and silver, wrought tissues, and silks and brocades. The Saracens, through their wide-spreading conquests and all-devouring cosmopolitan appetite for arts and learning—at second-hand—succeeded in confusing all local styles together, so that now it is often difficult to distinguish between European and Eastern influences in the designs of an Indian brocade: and yet through every disguise it is not impossible to infer the essential identity of the brocades of modern India with the blue and purple and scarlet worked in gold of ancient Babylon.

Such brocades doubtless were “the goodly Babylonish garment” which tempted Achan in Jericho, and the Veil of the Temple at Jerusalem, which Josephus describes “as a πέπλος Βαβυλώνιος of varied colours marvellously wrought.” Col. Yule [*Marco Polo*, i, 62], in the place just cited, also writes: “From Baudas, or Baldac, *i.e.*, Baghdad, certain of these rich silk and gold brocades were called *Baldachini*, or in English, Baudekins. From their use in the state canopies and umbrellas of Italian dignitaries, the word Baldacchino has come to mean a canopy, even when architectural.” Cramoisy derives its name from the Kermes insect, which before the introduction of cochineal from America, in 1518, was universally used for dyeing scarlet. It is the *tola* of Moses, wherewith the hangings of the Tabernacle and sacred vestments of the Hebrew priesthood were “twice dyed.” Sardis was celebrated for this scarlet dye, as were Tyre and Crete for their resplendent purples, the Tyrian being obtained from a shell-fish, as was also the red of Tarentum, and the Cretan tincture from a plant which Theophrastus, Dioscorides, and Pliny respectively call τὸ πόντιον φῦκος, φῦκος θαλάσσιον, *phycos*

thalassion, but which was, however, not a seaweed, but a lichen, identical probably with one of the species from which the Orchil purple of modern art is prepared. That the celebrated "purple" of the ancients was amethystine or violet in hue, and not red, is directly proved by their comparing the Tyrian with the Cretan purple, the latter of which they considered the more brilliant. Herodotus tells us of the admiration of Darius for the "scarlet cloak" [Rawlinson, *χλανὶς πυρρὰ*—"amiculum rutilum" Latin translation] of Syloson, the Samian, the fiery colour of which was probably derived from Kermes, and which certainly would not have excited the cupidity of Darius had the dye of Tyre been red. From the Arabic names of the insect, *kirmij*, comes not only *cramoisy* and *carmine*, but also *vermeil*, *vermilion*. The Arabs received both the insect and its name from Armenia, and *kirmij* is derived from *quer mes*, and means originally "oak berry." Dioscorides describes it under the name of *κόκκος βαφικῆς*. Pliny says of it, "est autem genus ex eo in Attica fere et Asia [Proconsulari] nascens, celerrime in vermiculum se mutans, quod ideo solecion vocant" [xxiv, 4]. *Vermilion* is the same word as *vermiculum*. *Vermiculum*, in fact, in the middle ages, signified Kermes, "and on that account cloth dyed with them was called *vermiculata*," and in England formerly "vermilions." The French term *vermilion* also originally signified Kermes, and from it was subsequently transferred to red sulphuret of mercury or cinnabar, a pigment known from the earliest times, it being mentioned by Jeremiah in his description of a house "ceiled with cedar and painted with vermilion" [ch. xxii, 14]; and by Ezekiel [xxiii, 14], when referring to the carvings of "men portrayed upon the wall, the images of the Chaldæans portrayed with vermilion," which portraiture in carving and in paint have survived to our time.

Textile fabrics frequently take their names from the place where they first acquired excellence, and retain them long after the local manufacture has been transferred elsewhere, and sometimes

the name itself is transferred to an altogether different style of manufacture. Thus, beside Baudekin from Baghdad, we have Damask from Damascus, and Satin from Zaytoun in China [Yule]. Sindon, Syndon, Sendal, Sandalin, and Cendatus, from Sindh, Calico from Calicut, and Muslin from Mosul. Marco Polo, Book I, ch. v, writes of the kingdom of Mosul, "All the cloths of gold and silver that are called *Mosolins* are made in this country; and those great merchants called *Mosolins* who carry for sale such quantities of spicery and pearls, and cloths of silk and gold, are also from this kingdom." In his note [vol. i, p. 59] Colonel Yule observes: "We see here that *mosolin* or muslin has a very different meaning from what it has now. A quotation from Ives, by Marsden, shews it to have been applied in the middle ages to a strong cotton cloth made at Mosul. Dozy says that the Arabs use *Maucilli* in the sense of muslin." Tartariums, Colonel Yule [*Marco Polo*, i, 259] believes, were so-called, "not because they were made in Tartary, but because they were brought from China through the Tartar dominions." Dante alludes to the supposed skill of Turks and Tartars in weaving gorgeous stuffs; and Boccaccio, commenting thereon, says that Tartarian cloths are so skilfully woven that no painter with his brush could equal them. Thus also Chaucer, as quoted by Colonel Yule.

"On every trumpe, hanging a broad banere
Of fine *Tartarium*."

This is the cloth of gold which Marco Polo calls *Nasich* and *Naques*, and he evidently describes the primitive working of gold in strips into it where, Book II, ch. xiv, he writes: "Now on his birthday, the Great Khan dresses in the best of his robes, all wrought in beaten gold." Buckram is said to be derived from Bokhara. The word occurs [Yule, *Marco Polo*, i, 59] as *Bochorani*, *Bucherani*, and *Boccassini*. Fustian is said to be derived from Fostat, one of the mediæval cities that form Cairo, and Taffeta

and Tabby from a street in Baghdad. Baden Powell, however, in his list of cotton fabrics met with in the Punjab [*Punjab Manufactures*, vol. ii, p. 22], names *taftá* a fabric of twisted thread, made both in silk and cotton; and *tafta* in Persian means twisted, as *bafta* means woven. Perhaps the manufacture gave its name to the street in Baghdad where it was made. Cambric is from Cambray; Sarcenet from the Saracens; Moire and Mohair from the Moors. Diaper is not, however, from d'Ypres in Flanders, but from a Low Greek word διασπρόν (from διασπᾶω, I separate), meaning "patterned," figured, diapered. Arras is from Arras; Dowlas—"filthy dowlas"—from Dowlais in France; Holland, "of eight shillings an ell," from Holland; and Nankeen from Nankin. Gauze is said to be from Gaza, Baize from Baïæ, and Dimity from Damietta. Cypresse is from Cyprus; and Frieze from Friesland; Jean from Jaen; Cloth of Rayne from Rennes; and Cloth of Tars from Tarsus, or perhaps Tabriz. Drugget is said to be from Drogheda; Duck, that is Tuck [whence Tucker Street, Bristol], from Torques in Normandy. Bourde de Elisandre or Bourdalisandre from Alexandria; Worsted from Worsted in Norfolk; and Kerseymere ["Cashmere"] from Kersey, and Linsey-Wolsey from Linsey, two villages of Sussex. Gingham is said to be from Guingamp; Siclatoun is thought to be from Sicily. Chintz is derived from *chint* or *chete*, Hindu words for variegated, spotted, whence *chita*. Velvet and Samit are both fabrics of Eastern origin, and the etymology of the former word, in old English "velouette," is from the Italian *vellute*, fleecy, nappy, and Latin *vellus* a fleece; and of the latter, from ἕξ "six," and μέτροι "threads," the number of threads in the warp of the texture. Camlet was originally probably woven of camels' hair. Under the Eastern Empire *Chrysoclavus* was the name given to old silks of rich dyes worked with the round nail head pattern in gold. The name *Gammodion* was given to silks patterned with the Greek letter Γ; and when four of these letters were so placed as to form a

St. George's cross, or a *Filfot* [*swastika*, i.e. "auspicious"] cross, the silk was termed *Stauron*, or *Stauracinus*, and *Polystauron*. *De fundato* were silks covered with a netted pattern in gold; and *Stragulate* were stiped on barred silks, evidently derived originally from India. Tissue is cloth of gold or silver, similar to Siclatoun and Tartarium or *Naques* [a word corrupted, I believe, from the Hindi, *naksha*, a picture], and the *soneri* and *ruperi* of India; and the flimsy paper called tissue-paper was originally made to place between the tissue to prevent its fraying or tarnishing when folded. Cloth of Pall would be any brocade used as an ensign, robe, or covering-pall of state, and generally means Baudekin. *Camoca* is the same word as *kincob* [*kimkhwa*]. Shawl is the Sanscrit *sala*, a floor, or room, because shawls were first used as carpets, hangings, and coverlets. The word therefore is in its origin the same as the French *salle* and the Italian *salone*, saloon or large room. The name *Bandana* pocket handkerchiefs is derived from the Indian word *bhandu* applied to stuffs from the method, to be hereinafter described, by which they are printed in spots.

Cottons.

Cotton manufacture did not obtain a real footing in Europe until last century. At a date before history the art was carried from India to Assyria and Egypt; but the cotton plant was not introduced into Southern Europe until the thirteenth century, where its wool was at first used to make paper. The manufacture of it into cloth in imitation of the fabrics of Egypt and India was first attempted by the Italian States in the thirteenth century; from which it was carried into the Low Countries, and thence passed over to England in the seventeenth century. In 1641 "Manchester cottons," made up in imitation of Indian cottons, were still made of wool. But in vain did Manchester attempt to compete on fair free-trade principles with the printed calicoes of India; and gradually Indian chintzes became so generally worn in England, to the detriment

of the woollen and flaxen manufactures of the country, as to excite popular feeling against them ; and the Government, yielding to the clamour, passed the law, in 1721, which disgraced the statute book for a generation, prohibiting the wear of all printed calicoes whatever. It was modified in 1736 so far that calicoes were allowed to be worn, "provided the warp thereof was entirely of linen yarn." Previously to this, in 1700 a law had been passed by which all wrought silks, mixed stuffs, and figured calicoes, "the manufacture of Persia, China, or the East Indies, were forbidden to be worn or otherwise used in Great Britain." It was particularly designed for the protection of the Spitalfields silk manufacture, but proved of little or no avail against the prodigious importation and tempting cheapness of Indian piece-goods at that time. Cotton was first manufactured in Scotland in 1676, and in Glasgow in 1738, and in Manchester the manufacture of printed calicoes was regularly established in 1765. Fustians, dimities, and vermilions from cotton-wool had, however, been made in London and in Manchester from 1641. After the invention of Arkwright's machine, in 1769, the production of Manchester developed so rapidly as to make it very evident that the protection of manufactures against foreign competition was a violation of the first principles of political economy.

The word "cotton" is not used in the English translation of the Bible, but in the passage of the book of Esther, [circa B.C. 450] ch. i, 6.—"Where were white, green, and blue hangings,"—the Hebrew word translated "green," is *karpas*, the Sanscrit *karpasa*, and Hindu *kapas*, that is, cotton [in the pod], an aboriginal Indian production. The passage should be translated—"Where were white and blue [striped] cotton hangings ;" which were probably imitations from, if not actually, Bengal *satrangis*. The Ramayana frequently mentions colored garments, and the way in which robes are represented colored on the Egyptian monuments in zig-zag stripes of different colours, green, yellow, blue, pink, is one of the most characteristic ways of dyeing cotton cloths in

India. Herodotus, Book i, ch. 203, tells of a certain tribe of the Caspian : " In these forests certain trees are said to grow, from the leaves of which, pounded and mixed with water, the inhabitants make a dye, wherewith they paint upon their clothes the figures of animals, and the figures so impressed never wash out, but last as though they had been inwoven in the cloth from the first, and wear as long as the garment." Pliny, Book xxxv, ch. 42 (11), writes : " In Egypt they employ a very remarkable process for the coloring of tissues. After pressing the material, which is white at first, they saturate it, not with colours, but with mordants that are calculated to absorb colour. This done, the tissues, still unchanged in appearance, are plunged into a cauldron of boiling dye, and are removed the next morning fully colored. It is a singular fact, too, that, although the dye in the pan is of a uniform color, the material when taken out of it is of various colours, according to the nature of the mordants that have been respectively applied to it ; these colours, too, will never wash out."

From Arrian we have seen that *σινδόνες*, muslins ; and *ῥόβνια*, cottons ; *περιζώματα*, sashes, *ζῶναι σκιωταί*, sashes striped with different colours ; *πορφύραι*, purple cloth ; and *σινδόνες μολόχιναι*, muslins of the colour of mallows, were exported in his time from India to all the ports on the Arabian and East African coasts. The Portuguese gave the name of *pintadoes* to the chintzes of India when they first saw them at Calicut. Indeed the cotton tissues and stuffs of India have always been even more sought after for the beauty and brilliance of their natural dyes, than for the fineness and softness with which they are woven ; and one of the greatest improvements in English textile manufactures would be the substitution of the rich deep-toned Indian dyes for the harsh flaring chemicals, especially of the magenta series at present in use. Mr. Wardle, of Leek, has paid great attention to this matter, especially in connexion with the application of dyes to the *tasar* silk of India.

The Maharaja of Cashmere has, it is said, adopted an effectual plan for the suppression of the magenta dyes within his kingdom. First, a duty of 45 per cent. is levied on them at the frontier; and at a certain distance within the frontier, they are confiscated and at once destroyed.

The great export trade in Indian cotton manufactures has long fallen before the competition of Manchester. Still, however, an immense cotton manufacture, for domestic purposes, continues to exist in India, equal probably to the whole export trade of Manchester; and now that cotton mills are being established in Bombay and other cities, we may even expect to see the tide of competition at last turned against Manchester. In consequence of the improvement of national taste in this country, and the spread of higher education and culture among the natives of India, we may hope for a rapid increase in the demand for Indian handloom made and artistically dyed and printed piece goods. The true *couleur d'ivoire* is found naturally only in Indian cotton stuffs. Nothing could be more distinguished for the ball-room, nothing simpler for a cottage, than these cloths of unbleached cotton, with their exquisitely ornamented narrow borders in red, blue, or green silk. Indian native gentlemen and ladies should make it a point of culture never to wear any clothing or ornaments but of native manufacture and strictly native design, constantly purified by comparison with the best examples and the models furnished by the sculptures of Amravati, Sanchi, and Bharhut.

The principal places of Cotton Manufacture in India.

The Panjab.—Mr. Baden Powell says that it is impossible to exclude any city or town from the list of cotton manufacturing localities in the Panjab. Weavers are found in every place producing at least the coarser cloths required by all classes. In the large cities, such as Lahore, Amritsar, Multan, Ludhiana, and others, almost every kind of fabric is woven. Ludhiana has a special name for drills, checks, and other cloths resembling

European denominations ; as well as for *lunghis* [head and waist-cloths], and other native fabrics. Multan is noted for cottonpile carpets, and printed and hand-painted calicoes or chintzes, and native *dhotis* [waist-cloths] with a red printed border. But the most important seat of all the finer cotton weaving is the Jalandhar Doab, comprising the districts of Hushiarpur, Jalandhar, and Kangra between the Satlaj and the Bias. Here, as everywhere throughout India, the competition of Manchester has caused fatal injury to the local manufacture, but still the fine *gatis* [diapers] of Rahun, and the muslin turbans of Bajwara are celebrated even in Hindustan. A coarse cloth called *kadha* [which literally means "woven"] is also largely exported from the Doab to the hills beyond Kulu and Spiti. In other parts of the Panjab there is an equal demand for this cloth for the markets of Cabul and Turkestan, and other towns through which the Paracha merchants pass between Bengal and Central Asia. In this way the districts of Jhang, in the Retchna Doab, between the Ravi and Chenab, and of Shahpur, especially the town of Kushab, in the Jetch Doab, between the Chenab and Jhilam, have a considerable trade in *kadha* ; and chintzes and printed fabrics are also much in demand and are largely exported. Multan, which is a great rendezvous of the Povinda merchants of the new frontier district of the Panjab, has a considerable trade in them, as indeed in all the articles that are exported from India into Central Asia. The district of Gugaira and especially the towns of Syadwalla and Pak-Pattan, in the Derajat, between the Indus and Suleiman hills, are noted for the weaving of *lunghis*, and *khesis* [wrappers or robes]. Kushab in Shapur is also noted for its *lunghis* both silk and cotton. The *lunghis* of Peshawar are famous, and the dark blue scarf with its crimson edge, woven in the valley of Kohat, south of Peshawar, is, observes Mr. Baden Powell, very characteristic. A similar scarf, both plain and ornamented with a gold border, is woven, in the Hazara hills north of Rawul Pindi. It is estimated that from 5,000 to

6,000 of the plain kind, valued at from four to thirty shillings each, are made yearly; and from 1,500 to 2,000 of the bordered kind, valued at from 1*l.* to 7*l.* each. The Panjab districts bordering on the North-Western Provinces and Rajputana are principally remarkable for muslin turbans, which are largely woven at Delhi. In the Sirsa district the principal fabrics are two coarse sorts of muslin called *gazis* ["rough"], *painsis* ["broad," 500 threads to the weft], and *dabba khesis*, that is "wrappers" of two colours. Other Panjab denominations,—which are common to all India,—of native cotton fabrics, are *malmals* or muslins, of which *dorias* are striped of a thicker texture at regular intervals, and *dhotars* are a coarser variety; *dotahis*, sheets folded twice, and *chautahis*, sheets folded four times; and *susis*, fine-colored cloths, made chiefly at Battala and Sialkote, striped in the direction of the warp with silk, or cotton lines of a different colour, the cloth being called *dokanni* if the stripe has two lines, if three *tinkanni*, and so on. *Daris* or twills, and the plain cloths called *dosuti*, *tinsuti*, *chausuti*, used principally for tent cloths and dusters, and *dabbis* or "gambroons" have been made only since the English occupation of the country. The thick *dari* carpets also, for which Ambala was always famous, are now produced all over the country. Printed cloths, if the pattern is continuous, are called *chail*, if composed of separate designs *chit* [chintz], and if dyed in spots, like the old bandana pocket-handkerchief, *bhandu*.

Sindh.—In Sindh coarse cotton cloths called *dangaris* are manufactured in every village and town. Both colored silk and cotton cloths are made at Alahyar-jo-Tando; and *susis* at Hala. Tatta was once renowned for its silk and cotton fabrics, and a considerable manufacture of *susis*, *lunghis*, and of mixed silk and cotton also, is still carried on there. Dr. Winchester [quoted by Mr. Hughes in the *Gazetteer of the Province of Sind*, London, 1876], in 1839, speaks of these articles being then made of exquisite beauty and workmanship; and they were greatly prized by the old Amirs, who included them in all the presents they

made to foreign powers. At that time the Tatta chintzes were considered to be far superior both in texture and pattern to those made in most other parts of India, and almost rivalled those of Surat. Cotton *lunghis*, *susis*, and *saris* [robes] are also made in large numbers at Karachi.

Rajputana.—In Rajputana cotton is woven everywhere, and the printed cotton cloths of Jaipur and Jodpur are prized all over Hindustan for the purity and brilliance of their dyes. The large cotton *daris* of Rajputana, striped in red, green, yellow, blue, and black are marvellous examples of the skill of Indian weavers in harmonising the most prismatic colours.

North-Western Provinces.—In the North-Western Provinces a coarse cotton cloth, *kharua*, is generally made, and of especial excellence at Jhansi. In the Jalaun district a sort of muslin [*malmal*] called *jagi* is made. The old town of Chandari in the Lalatpur district was famous for its fine muslins, but the trade has greatly declined. Captain Tyler tried to revive it, but in an outbreak of cholera in 1865 the weavers all died, or ran away, and his plans failed. In Saharanpur, a coarse cloth called *gara* is made. Turbans are a speciality of Sikandrabad. Dyeing and printing of country cloths is carried on in many places. The muslins of Benares are figured with gold on a ground of white, black, brown, or purple. The city of Bijnur has a special reputation for the manufacture of the sacred cord or sacrificial thread [*zenaar*, *janeo*] of the Brahmans.

Oudh.—In Oudh, before its annexation, a large number of the lower classes were employed in weaving cotton, and their looms paid a fixed annual duty to the King, but the industry received a deadly blow directly it was exposed to the unrestricted competition of Manchester. Yet every village has still its little colony of caste weavers. Take for example the Nawabganj tahsil, in the district of Bara-Banki, of which the statistics of the local manufacture are given in the official *Gazetteer* [Lucknow, 1877]. It supports 1,910 weavers, who weave ten denominations of cotton fabrics, *garas*, *gazis*, *dhotis*, *mamudis*, and *kasas* of country

twist, and *tapatis*, *charkanas*, *adotars*, *susis*, and *bilras* of Lancashire twist. In the Hardoi district the muslin called *manudi* is still in considerable demand, and weaving also thrives at Tanda, Nawabganj, Baiswara, and cotton printing at Kheri, all in the same district. In the Kheri district [quite distinct from the town before named] the largest in Oudh, cotton weaving is pursued by 3,155 and cotton printing by 990 artificers. At Biswari, in the Sitapur district, there are 100 families of weavers, and no emigration of distressed weavers has yet taken place from this district. At Jais, in the Sultanpur district, various kinds of textile cloths, both plain and brocaded, are manufactured, of which a peculiar kind of muslin called *tanzib* is the most famous. The weavers have a curious art of interweaving in it, at the time of its manufacture, any design that may be suggested to them. Verses and sentences are most common, and these are varied to suit every taste and creed. Some are passages from the Koran, others from the Vedas, and others from Watts's moral songs and hymns. In the Lucknow district the weavers were at one time highly prosperous, but have now but small work for their looms. The number of looms is said to be 1,474, the number of pieces turned out 89,159, of the total yearly value of £15,347, or about £10 on each loom. Cotton printing, however, still continues to be a successful calling in the city of Lucknow, although Manchester chintzes sell for a shilling the yard, while those printed on the spot cost twenty pence the yard. But the Lucknow chintzes are far superior in colour, the Kukrail and Baita rivers being famous for the purity of the tints their waters give to the deep-toned dyes of India. Formerly the weavers of Tanda in the Fyzabad district used to produce the most delicate muslins, but now they are seldom made.

Bengal.—Cotton fabrics are manufactured all over Bihar, Bengal, Orissa, and Assam. Superior cotton cloth is made in the Sat Kirah subdivision of the twenty-four Pergunnas, and at several places in Bardwan. The fine cotton manufacture of

Santipur arose from its having been the centre of the large factories established in the Nuddea division, in the old days of the East India Company. At Charpata, also in Noakhali, in Chittagong, there was formerly a cotton factory of the old East India Company, and the *baftas* ["woven"—cotton stuffs] or "Bastas," for which it was famous, had, in their time, an extensive reputation and were largely manufactured. Coarse cloth only is now made there, and the importation of Manchester goods bids fair to destroy even this limited industry. In Chittagong the Mugs in Cox's Bazaar make both silk and cotton cloth. At Sarail, in Tipperah, a *tanzib*, or *tanjib* muslin is made as fine almost as the muslins of Dacca. Cotton weaving employs one-tenth of the population of Tipperah, but the industry is rapidly declining in the competition with Manchester, the native weavers taking to agriculture. At Jahanabad in the Patna division, the weaving of fine cotton stuffs, a relic of the East India Company's factory at Patna, is still carried on; and the weavers continue to form an important body of the community. Towels and bath cloths are a speciality of Bihar, and strong coarse cloth of Sarun. Good cotton cloth is also made at Palamow in Chota Nagpur. At Kassimbazaar, in the Rajshahye division, there has been a great decline in its once famous manufactures since the abolition of the East India Company's monopoly in 1833.

The once celebrated Dacca muslins are now almost a thing of the past. James Taylor, in his *Sketch of the Topography and Statistics of Dacca*, published in 1840, deplores the ruin which had overtaken its muslin trade: but he records that thirty-six different denominations of cotton cloth were still made at Dacca. Since Dr. Taylor wrote, the manufacture has still more greatly fallen off. In the time of Jehangir, Dacca muslin could be manufactured fifteen yards long and one broad, weighing only 900 grains, the price of which was 40*l*. Now the finest of the above size weighs 1,600 grains and is worth only 10*l*., and even such pieces are made only to order. The three pieces presented to the

Prince of Wales, and which were expressly prepared for him, were twenty yards long and one broad, and weighed 1,680 grains [three and a half ounces] each. Tavernier states that the ambassador of Shah Safy [A.D. 1628-1641], on his return from India, presented his master with a cocoa-nut, set with jewels, containing a muslin turban thirty yards in length, so exquisitely fine that it could scarcely be felt by the touch. A rare muslin was formerly produced in Dacca, which when laid wet on the grass became invisible: and because it thus became undistinguishable from the evening dew it was named *shabnam*, i.e. "the dew of evening." Another kind was called *ab-rawan*, or running water, because it became invisible in water. The demand for the old cotton flowered and sprigged muslins of Dacca in Europe has almost entirely fallen off, but there is a brisk and increasing demand for *tussur* embroidered muslins, denominated *kashidas*, throughout India, Persia, Arabia, Egypt, and Turkey.

Central Provinces.—In the Central Provinces cotton looms are found everywhere, and the gold-wrought and brocaded cotton and silk tissues of Barhanpur, and the richly-embroidered apparel of Nagpur and Bhandara are famous, and still hold their own against all competition throughout Central India.

Barhanpur is, however, Mr. Grant informs us in the *Gazetteer for Central Provinces*, Nagpur, 1870, a declining city. The removal from it of the seat of the native government is one cause of this, and another the return of peaceful times under our administration, which has induced many of the cultivators of the neighbouring lands who resided within the walls for protection, to move nearer to their fields. A third is the advent of the railway, which has destroyed the business of Barhanpur as the depot for the trade between Malwa and the Dakhan. Another, and the one usually adduced as the sole cause, is the falling-off of the demand for the richer fabrics of inwoven gold, for the production of which the city has always been famous, owing to the breaking up of so many native Indian courts. It now contains 8,000 stone

houses, and a population of 34,137, most of whom are dependent in one way or another on the wire-drawing and cloth-weaving industries of the place. At the census of 1866 the number of gold thread makers were:—

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|--|--------------|
| Wire-drawers | 601 |
| Wire-flatteners | 411 |
| "Kalabatun" [gold thread] spinners | 412 |
| Total | <u>1,434</u> |

The number of weavers engaged in weaving was—

| | |
|---|--------------|
| Silk-spinners | 45 |
| Cloth-dyers | 457 |
| "Kalabatun" [gold thread] weavers | 381 |
| Other weavers | 4,437 |
| Total | <u>5,320</u> |

In the Bhandara district native cloth is made at Bhandara, Pauni, Sihora, Adar, and several other towns. The finest and best is manufactured at Pauni. This cloth is much prized by the higher class of natives, who sometimes pay 20*l.* for a turban, or *dopatta* [a twofold scarf]. The manufacturers of these cloths are said to have come originally from Burhanpur, and from Paithan on the Godavari, the old capital of Salivahana, A.D. 78. Red *saris*, with different coloured borders of silk and cotton, are made at Mohari and Andhalgaon. Bagri is noted for its stout and durable *kadi* cloth, and the town of Bhandara for its turbans. The commerce of this district has received a great impetus through the improvement of the road to Jubbulpur, and the opening of the Railway.

In Nagpur, cotton and silk cloths of all sorts of descriptions are produced in great abundance, from *dhotis*, valued at 50*l.* the pair, to the scanty *langutis* worn by the common coolies. The *pagris*, or turbans, are generally made of finely woven cotton cloth, with a broad fringe of gold. The *saris* and *dhotis* are generally of plain cotton, with a handsome silk border. The very best of

these are made at Nagpur and Umrer, but those made in the neighbouring towns of Khapa, Maunda, and Bhiwapur, are also of superior quality.

At Hoshungabad, the weaving trade flourished until the enormous demand for cotton wool in 1863-64 raised the price of the raw material beyond the weavers' means. All the cotton wool in the district was exported, and Manchester piece goods were at once imported, and they have held the market ever since. Many native looms have in consequence stopped, and the local manufacture has partially succumbed.

At Chanda, coarse and fine cloths are made which are still exported to all parts of Western India, and formerly found their way to Arabia. The Telinga weavers turn out cloths of colored patterns in very good taste, and cotton thread of wonderful fineness is spun for export to other parts of India.

At Bustar, the outcast Mahars and Pariahs weave the narrow coarse cloths used as *langutis* by the Murias and other wild tribes.

Berar.—In Berar the stout cotton cloths called *kadis* and *dhotars* are made everywhere. Fair turband cloths are woven at Bolapur, in the Akola district; and at Ellichpur, turbands and other fine cloths for male and female apparel. Excellent cotton carpets are also made at Ellichpur and Akot, and Bolapur in the Akola district.

Bombay.—In the Presidency of Bombay, Surat suffered as much as any town in India from the extinction of the East India Company's trading monopoly in 1833. "A new era was opened to English commerce," writes the historian, heedless of the two centuries of manufacturing activity and prosperity, under the Company's fostering rule, which had preceded it in India. But within the last four or five years the cotton manufactures of Surat have begun to revive, and the Hindu weavers have begun to make cloth of a new pattern, chiefly for bodices, which is largely exported to the Dakhan.

Baroach, also, under the East India Company, was a great

centre of cotton manufactures, from the stoutest canvas to the finest muslins; but the industry was ruined by the unrestrained Manchester imports, and of the thirty odd varieties of cloths enumerated in the factory diary for 1777, now only six are made. The weaving of cotton cloth is still an important industry in the Ahmedabad collectorate. At Ranpur fine cloth is woven from English yarn, and finds a ready sale in the neighbourhood. At Dholka, from the same materials *sadis* [*i.e.*, *saris*, women's robes], are made, of much local repute for their strength and steadfastness of colour; and in the city of Ahmedabad the richer weavers make superior *dhotis*, *saris*, *dopattas*, and *chalotas* [small waist cloths], which are sold in all parts of Gujerat, and exported to Kandesh and Bombay. *Khadi* cloth, *chopals*, and *dhotis* are woven in every village. Mr. Lely says, that although a large section of these village craftsmen are seen to suffer from the competition of the machine looms, which are now springing up everywhere in centres of the cotton manufacturing districts of Western India, Ahmedabad has not allowed its old cloth industry to die out. It has now four steam factories, employing 2,013 hands, and paying in wages a yearly sum of about 20,000*l.*; but the class which has benefited most from these mills is not the caste of local weavers, but the Vaghris, who formerly supported themselves by begging. Now whole families of these outcasts take employment at the mills, and become well off. Calico printing is also a craft of some consequence in Ahmedabad.

In the Kaira collectorate, before the opening of these monster factories at Ahmedabad, cotton weaving was the most important industry of the district. Almost all the men and women, both in the towns and the villages, writes Mr. G. F. Sheppherd, in the *Bombay Gazetteer*, 1879, were formerly to some extent engaged in cotton spinning and weaving; and the cloth woven by them was largely exported to Ratlam and other parts of India, both for clothes and sacking. But of late years Bengal jute has to a large extent taken the place of the local manufacture

for packing, while the wearing apparel, which, from its greater strength and cheapness, had little to fear from the fraudulent competition of Manchester heavily-sized goods, has now to a great extent been undersold by the mechanical productiveness of the mills of Bombay and Ahmedabad, the profits of which are for the most part carried away out of the country by the English and other European merchants of Western India. In this way the native caste weavers suffer a direct loss, without compensation of any kind.

But at Kaira the river water is very pure, and most excellent for dyeing, and therefore its printed cloths at least keep up their good name; and besides a widespread home demand for them, they are exported to other places, even so far as Siam. Some of these printers are men of capital. May their river ever keep its native sweetness for them.

Painting in gold leaf and silver leaf on cotton cloth and silk is very common in Gujarat. The cloth is first stamped with a deeply-cut hand-block dipped in gum; and then a layer of gold or silver foil is laid on, and sharply rubbed into it. The rubbing takes away the foil from the surface of the cloth, except where it has been fastened by the gummed pattern. Then the foil is so thoroughly beaten into the cloth that it may be roughly used without giving way. This industry also continues in a thriving condition.

Another mode of decorating silk or cotton is by knotting [*bandhna*], which gave its name to the old bandana pocket-handkerchiefs. To knot the silk or cotton, the undyed cloth is sent to a draughtsman, or *chitarnar*, who divides the whole surface into one-inch squares. Then it goes to the knoter, or *bandnari*, generally a young girl, who picks up a little cloth at each corner of the squares, and ties it into a knot with packthread, the number and position of the knots being fixed by the pattern it is desired the cloth should take. Then after being thus knotted all over, the cloth is sent to the dyer, who dips it into the colour required for the ground of the pattern; after which the knots

are all untied, and shew in little squares [not in circles] of white, the centres of which are generally hand-painted in yellow. This is the simplest of the *bandhnari* patterns. In the *phal-wadi*, or "flower-garden," many colours are used. First the parts that are to remain white are knotted and the cloth dipped in yellow: then some of the yellow is knotted, and the cloth is dyed scarlet. For the border some scarlet parts are tied, and the rest dyed purple.

In the north of Gujarat the favorite color is red, and in Kathiwar, red, combined with deep brown, and yellow. Blue and green in combination with red and yellow are more prevalent in the south of Gujarat, and in the Maratha country. The great distinction—as Mr. George Terry has pointed out in his very interesting chapter on "The Manufactures of Western India in Bombay," in the *Administration Report* for 1872-73—between the Gujarat and Maratha races, is in the decoration of their cotton goods, the purely Maratha people seldom wearing printed cotton goods, while the inhabitants of Gujarat prefer them to all others. The only printed stuffs worn by the Marathas are ornamented with metal leaf. Their usual *saris* and *cholis* [bodices] are dyed in the thread, and are either made of cotton only or silk and cotton mixed. The decorations consist of borders handsomely wrought in silk, or silk and gold. Blue is the favorite color; but dark green and purple, and deep crimson, are common enough. Calico-printing is also done at Baroach.

In the collectorate of Nasik, the town of Yeola is famous for its native silk and cotton manufactures, and the finer kinds of cotton stuffs are made also in the town of Nasik; and at Ahmednagar, Sholapur, and Kandesh. Gulutgad, in the Kaladgi district of the Maratha country, is known for its *saris* and *cholis*. Cotton-spinning and weaving are the commonest occupations in the Belgaum collectorate, particularly in the *talukas* of Parasgad and Samppgaum, Gokak, Chikodi, and Bidi. The total number of weavers Mr. Terry estimates at about 70,000. In the village of

Bil-Hongal in the Sampgaum *taluka*, *saris* are woven of great perfection. The towns of Margodi, Manoli, and Assundi, in Parasgad, also have a large population of dyers and cloth printers. But for the manufacture of cloths the palm must be given to Deshnur, in the northern part of Sampgaum. The town of Nandi-gad, in Bidi, is the great mart for cotton fabrics of all kinds which are imported from the eastern districts, and thence find their way to the coast country below the Ghâts.

Madras.—In the Godavari district in the Madras Presidency, most excellent cloths are made at Urpada, near Coconada, and in the villages about Utapalli and Nursapur; and the fine turbans made at Uppada are still in great requisition. Tent cloth of superior quality is also manufactured in the villages near Rajamandri, and in the Central Jail. The weavers are, however, in a very impoverished condition, as their industry has languished and gradually declined ever since the abolition of the exclusive trade of the East India Company.

Formerly there was a large manufacture of blue *salampores* at Nellore, which was quite broken up by the West Indian Emancipation Act, for the freed negroes refused, very naturally, to wear the garb of their slavery; and the heavy expenses of land carriage, the absence of railways and canals, and the risks of sending goods down to Madras by sea in native craft uninsured, while no insurance office will accept the risks of the road, all operate against the revival of the old trade, and the development of the immense natural resources of Nellore as a manufacturing centre.

At Vizagapatam a strong cloth is made called *punjam*, that is, "120 threads" [literally 60], and the cloth is denominated 10, 12, 14, up to 40 *punjam*, according to the number of times 120 is contained in the total number of threads in the warp. Dyed blue at Madras, it is exported to Brazil, the Mediterranean, and to London for the West Indies. Imitation Scotch checks and plaids are also made for the large population of poor native Christians in the Madras Presidency.

The chintzes of Masulipatam have enjoyed a world-wide celebrity ever since the days of Arrian, and probably of the Mahabharata. They are prized for the freshness and permanency of their dyes, the colours being brighter after washing than before. There is still a great demand for them in Burma, the Straits, and Persian Gulf, but Manchester goods threaten to destroy also this immemorial industry of India. Nearly all the Masulipatam chintzes seen in England are copied from Persian designs of sprigs of flowers, and of the knop and flower, and tree of life patterns. Wherever the Mahommedan influence is carried in India the decorative symbols of the Aryan race are introduced. But at Masulipatam the Persian designs have been introduced through the trade with Persia, and probably by Persian colonists.

In Nellore fine shirtings are made at Kovur, and pocket-handkerchiefs, and, when ordered, muslins suitable for ladies' dresses. Exceedingly fine muslins are made at Yapallagunta, in the Udyagiri *taluka*; and strong tent-cloths at Kandukur. Fine cloths are made in the *talukas* of Gundur, Rapur, Nellore, and Kavali. Handkerchiefs are specially woven at Valaparla in the Ongole *taluk*, and curtain-cloths at Gundavaram, Turimula, and Nidimusali, in the Nellore *taluka*. Dyeing is done at several places in the Kundukur, Ongole, and Nellore *talukas*.

In the Bellary collectorate cotton is generally woven, and also cloths of cotton and silk. Cotton carpets of large size for houses and tents, and of a smaller size for the native troops, are made at Adoni, whence they are exported in large quantities to all parts of Southern India.

In Mysore cotton manufactures are established in every district. Very superior cloths are made at Molakalnuru, which are much prized in Mysore and at Bangalore. Striped cotton carpets, *daris* or *satrangis*, are made in the Kolar districts: also at Shikarpur, in the Shimoga district: and chintzes at Shimoga itself and Aimur. In the Tumkur district there are 3,763 cotton looms, and 34,801 cotton spinning-wheels. Black and white checks are

made at Chiknayakanhalli. White sheets are made at Chittledrag, and cotton goods of all sorts at Harihar.

The weavers and dyers of Bangalore, who formerly worked for the court of Seringapatam, still manufacture the printed cotton cloths which were always their specialty. They are very coarse, and printed in only two colors, red and black, with mythological subjects taken from the Ramayana and Mahabharata. They are made chiefly for the service of the temples, and are very rare to get, except by favor from the priests. Sometimes they are touched up in yellow by hand painting.

At Madura large quantities of a celebrated red cloth are manufactured, and it is also noted for handsome turbans bordered with gold lace, made at Dindigal, and Madura itself.

Coarse cloth is woven all over Kurg. In the village of Sirangala are made the shawls and *kamarbands* *[waist-cloths] worn all over Kurg. A fine description of cloth is woven at Kodlipet.

Dr. Forbes Watson's Classification of the Textile Fabrics of India.

Dr. Forbes Watson, in his exhaustive work on *The Textile Manufactures and the Costumes of the People of India*, which embodies the results of the experience and research of a lifetime, classes together the manufacturers in cotton, silk, and wool which are made up on the loom as garments, such as turban cloths, and the *dhoti*, a flowing cloth bound generally round the waist and legs. It is generally bordered with purple or red, blue or green, like the *toga prætexta* [limbo purpureo circumdata], and in Mysore the *dhoti* is called *togataru*. The *sari*, used by the women, is also loom-made, and is the undoubted κάλυμμα of Homer. Thus Thetis [*Il.* xxiv. 93, 94]—

"Veiled her head in sable shade,
Which flowing long her graceful person clad."

Kerchiefs, and waistbands [*kamarbands*], and sashes [*dopattas*],

are also loom-made. The principal garments made up by cutting and sewing are the bodice [*choli*] for women, who sometimes also wear a petticoat; and drawers [*pijama*, literally "leg-cloth" from Sanscrit *pada*, Hindi *pai*, foot, so books say; but possibly from the Sanscrit word identical with the Greek *πυγή*, e.g., in Venus Kallipygos], worn both by men and women; and the undress coat, *angarka*; and full-dress coat, *jama*, worn only by men; and caps which go by all sorts of names, such as *topi*, *taj*, and others.

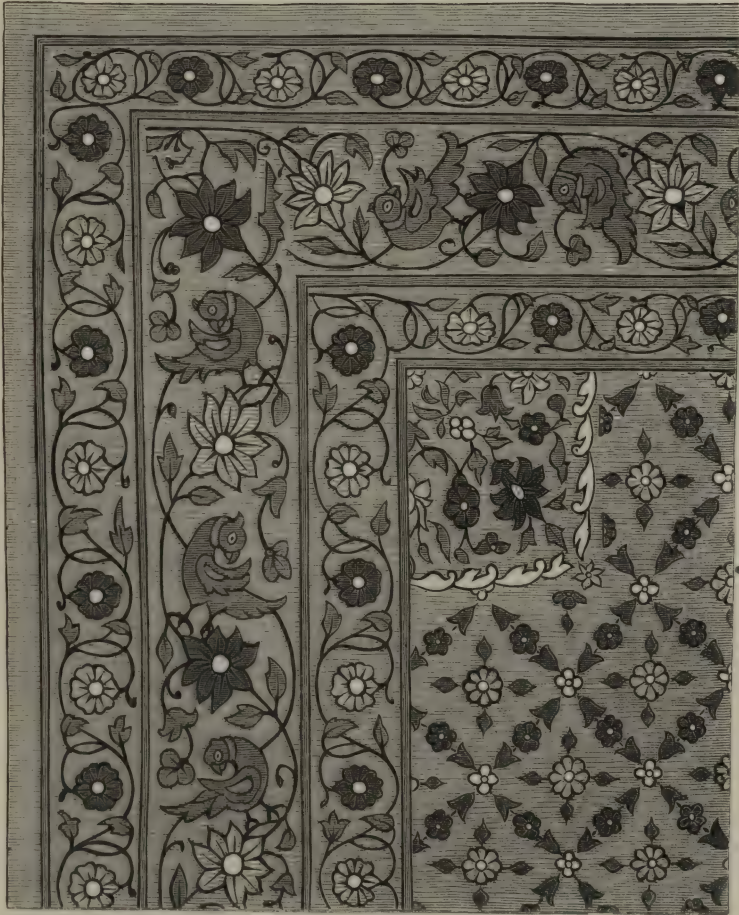
Among piece goods the first place is given to Dacca muslin, *abrawan*, or "running water"; *bafthowa*, "woven air"; *shubanam*, "evening dew," all plain white webs, the poetic names of which convey to the reader a truer idea of their exquisite fineness and delicacy, and of the estimation in which they are held, than whole pages of literal description. These fine muslins are all classed under the generic term of *mulmul khas* or "king's muslins." Plain muslins are made not only at Dacca and Patna and other places in Bengal, but also at Hyderabad in the Dakhan, and at Cuddapah and Arni in Madras. Striped muslins, or *dorias*, are made at Dacca, Gwalior, Nagpur, Hyderabad, Arni, and other places. Checkered muslins, or *charkana*, are chiefly made at Dacca, Nagpur, Arni, and Nellore; and figured muslins, *jamdani*, at Dacca. Dr. Forbes Watson describes them as the *chef-d'œuvre* of the Indian weaver. At Calcutta embroidered muslin is called *chikan* ["needle" work]. Muslins woven with colored thread, and striped, checked, and figured, are made at Benares, Arni, Nellore, and Chicacole in Madras; printed muslins at Trichinopoly, and gold and silver printed muslins at Jaipur, and Hyderabad in the Dakhan. "The process," Dr. Forbes Watson writes, "by which this mode of decoration is accomplished is by stamping the desired pattern on cloth with glue; the gold or silver leaf, as the case may be, is then laid on, and adheres to the glue. When dry, what has not rested on the glue is rubbed off." In Persia, in the rare Ispahan chintzes, I am

informed, the gold is sprinkled in the form of dust on the pattern previously prepared with size.

The calicoes Dr. Forbes Watson classifies as (a) plain calicoes, bleached and unbleached, made all over India; (b) calicoes woven with colored thread, comprising, first, *susis* and *kesis*, striped cloths of brilliant hue, made largely in the Panjab and Sindh, and also at Surat, Palamcottah, Cuddalore, and other places in Madras, and used chiefly for trouserings; second, also striped, manufactured in Nipal and Pegu, and used for skirts; and third, checks and tartans, used also for skirts and petticoats, and manufactured at Ludianah, Baroach, Tanjore, Cuddalore, Masulipatam, and other places in Madras; and (c) printed calicoes [*chintzes*, *pintadoes*], first on a white ground, manufactured at Fatehgarh, Masulipatam, and Arcot, &c.; second, printed on a colored ground, manufactured at Shikarpur, Agra, Fatehgarh, Bijapur, Bellary, Arcot, and Ponneri, in Madras; and third, the celebrated *palampores*, or "bed-covers," of Masulipatam, Fatehgarh, Shikarpur, Hazara, and other places, which in point of art decoration are simply incomparable. As art works they are to be classed with the finest Indian pottery, and the grandest carpets. Lastly, Dr. Forbes Watson classes together the miscellaneous cotton fabrics, chiefly made for Anglo-Indian use, such as the pocket-handkerchiefs of Nellore; the damask and diaper tablecloths, napkins, and towels of Madras, Salem, Masulipatam, Cuddalore, and Baroach; and the counterpanes and quilts of Karnul, Hyderabad in the Dakhan, and Ludianah.

Lace.

Lace-work has only recently been introduced into India, but the natives show a singular aptitude for it, and the excellent samples of it in cotton, silk, and gold and silver thread among the Prince of Wales' presents from Tinnevely and Nagarcovil in Madras leave nothing to be desired either in design or manipulation.



KINCOB OF AHMEDABAD.



A white lace called *gota*, and a colored variety, called *pattia*, are made in the Punjab.

Silks.

As silk is woven with the striped cotton *susis* of the Punjab and Sindh, so we find cotton mixed with silk in the silken piece goods known in India under such names as *mashru* and *sufi*, meaning "permitted" and "lawful." It is not lawful for Mahomedans to wear pure silk [*holosericum*], but silk mixed with cotton they are permitted to wear; and hence the well-known Indian fabrics with a cotton warp or back, and woof of soft silk in a striped pattern, having the lustre of satin, or *atlas*, are called *mashru*. *Sufi* is the name given to the striped [*gulbadan*] "lawful" [*sufi*] silks, called also *shuja-khanis*, of Bhawalpur, which differ from *mashrus* in that they have no satiny lustre, and look like a glazed calico. They can scarcely be distinguished from *susis*, and are glazed with a mucilaginous emulsion of quince seed. These mixed stuffs are also found plain and checked and figured, and are largely made in the Panjab and Sindh, at Agra, Hyderabad in the Dakhan, Tanjore and Trichinopoly. Pure silk fabrics, striped, checked, and figured, are chiefly made at Lahore, Agra, Benares, Hyderabad in the Dakhan, and Tanjore. The printed silks worn by the Parsi and Bhati and Bunia women of Bombay are a speciality of Surat. Wild silk [*tasar*, *eria*, and *munga*] is woven chiefly in Cachar, and at Darjiling, Bhagalpur, and Warangal. Gold and silver are worked into the decoration of all the more costly loom-made garments and Indian piece goods, either on the borders only, or in stripes throughout, or in diapered figures. The gold-bordered loom embroideries are made chiefly at Sattara, and the gold or silver striped at Tanjore; the gold figured *mashrus* at Tanjore, Trichinopoly, and Hyderabad in the Deccan; and the highly ornamented gold figured silks, and gold and silver tissues principally at Ahmedabad, Benares, Murshedabad, and Trichinopoly. Dr. Forbes Watson restricts

the term Tissues to cloths of gold and silver, *ruperi* and *soneri*, made of flattened strips of gold. The native word *kincob* is also generally restricted to the highly ornamented gold (or silver) wrought silk brocades of Murshedabad, Benares, Ahmedabad, and other places; but, as these *kincobs* in their style and essential character are older than the use of silk in India, Babylonia, Phœnicia, and Egypt, the name is confusing when used in connexion with the history of decorative art, unless understood in a sense coextensive with brocade. The description which Homer gives of the robe of Ulysses in the nineteenth book of the *Odyssey* accurately describes a Benares *shikargah*, or happy "hunting ground" *kincob*.

" In ample mode
 A robe of military purple flow'd
 O'er all his frame; illustrious on his breast
 The double-clasping gold the King confest.
 In the rich woof a hound, mosaic drawn,
 Bore on full stretch, and seized a dappled fawn;
 Deep in his neck his fangs indent their hold;
 They pant and struggle in the moving gold.
 Fine as a filmy web beneath it shone
 A vest, that dazzled like a cloudless sun.
 The female train who round him throng'd to gaze,
 In silent wonder, sigh'd unwilling praise.
 A sabre when the warrior pressed to part,
 I gave enamelled with Vulcanian art;
 A mantle purple tinged, and radiant vest,
 Dimension'd equal to his size, express'd
 Affection grateful to my honor'd guest."

And when this passage is read with others in Homer, proof is added to proof of the traditional descent of the *kincobs* of Benares, through the looms of Babylon and Tyre and Alexandria, from designs and technical methods which probably, in prehistoric times, originated in India itself, and were known by the Hindus already in the times of the Code of Manu, and before the date of the Ramayana and Mahabharata.

Thus in *Iliad* iii :

" Meantime to beauteous Helen from the skies,
The various goddess of the rainbow flies.
Here in the palace at her loom she found
The golden web her own sad story crown'd ;
The Trojan wars she weav'd, herself the prize,
And the dire triumph of her fatal eyes."

And *Iliad* v :

" Pallas disrobes ; her radiant veil unty'd,
With flowers adorn'd, with art diversify'd."

And *Iliad* vi :

" The largest mantle her rich wardrobes hold,
More prized for art, than labour'd o'er with gold."

* * * * *

" The Phrygian Queen to her rich wardrobe went,
Where treasured odours breathed a costly scent.
There lay the vestures of no vulgar art,
Sidonian maids embroidered every part,
Whom from soft Sidon youthful Paris bore,
With Helen touching on the Tyrian shore.
Here as the Queen revolv'd with careful eyes
The various textures and the various dyes,
She chose a veil that shone superior far,
And glow'd refulgent as the morning star."

And in *Od.* xv :

" Meantime the King, his son, and Helen, went
Where the rich wardrobe breathed a costly scent,
The King selected from the glittering rows,
A bowl ; the Prince a silver beaker chose.
The beauteous Queen revolved with careful eyes
Her various textures of unnumber'd dyes,
And chose the largest ; with no vulgar art,
Her own fair hands embroider'd every part.
Beneath the rest it lay divinely bright,
Like radiant Hesper o'er the gems of night."

The two last passages are photographic vignettes from any wealthy Indian Settia's house, and in copying them one seems to

breathe again the very odours of the costus and costly spikenard which native gentlemen wrap up with their rich apparel, and fine muslins and embroidered work.

There are many rich brocades [*kincobs*] in the India Museum, of shining dyes, and stiff with gold, from the looms of Murshebad, Benares, and Ahmedabad. A *kincob* belonging to the Prince of Wales is one of the most sumptuous ever seen in Europe. It is of Ahmedabad work, rich with gold and gay with colours, and was presented to the Prince by the young Guicowar of Baroda. The stuff called *soneri*, or "golden," is richer still, but is not ornamented with a colored border; it is simply cloth of gold. *Ruperi* is made in the same way with silver, and it was doubtless in the borrowed glory of this fabric that Herod was arrayed, when enthroned before the people, in the full blaze of the sun, they hailed him as a god [Josephus, *Antiquities*, xix viii. 2.]

There is an Indian brocade called *chand-tara*, "moon and stars," because figured all over with representations of the heavenly bodies; Athenæus, A.D. 230, quotes from Duris [B.C. 285-247], the description of a cloak worn by Demetrius [B.C. 330], into which a representation of the heavens, with the stars and 12 signs of the Zodiac, was woven in gold; and Josephus [A.D. 37-100] states [*Wars of the Jews*, Bk. v, ch. v 4] that the veil presented to the Temple by Herod, "was a Babylonian curtain, embroidered with blue and fine linen, and scarlet and purple, and of a contexture that was truly marvellous. Nor was the mixture of colours without its mystical interpretation, but a kind of image of the universe. . . . This curtain had also embroidered upon it all that was mystical in the heavens, excepting that of the 12 signs of the Zodiac, in the likeness of living creatures." In 2 Chronicles iii 14, we read: "And he [Solomon] made the veil of blue and purple and crimson and fine linen, and wrought cherubims thereon." The veil of the Holy of Holies, made by Moses, Josephus [*Antiquities*, Bk. iii ch. vi 4] states,



GOLD EMBROIDERY ON VELVET, MURSHEDABAD.



"was very ornamental, and embroidered with all sorts of flowers which the earth produces, and there were interwoven into it all sorts of variety that might be an ornament, excepting the forms of "animals." The passages in which various classical writers describe curtains and carpets, and brodered work figured with animals and men, "Persians," "portraits of Kings," and "Parthian letters," are too numerous for quotation. It is an interesting fact that at Rai Bareli and other places in Oudh a peculiar brocade is made inwoven in gold and colored silks with passages from the Vedas, the Koran, and Watts' Hymns.

Beside *chand-tara*, among other poetical names for Indian patterns of silks and *kincobs*, may be mentioned *mazchar*, "ripples of silver"; *dup-chan*, "sunshine and shade"; *halimtarakshi*, "pigeon's eyes"; *bulbulchasm*, "nightingale's eyes"; and *murgala*, "peacock's necks."

The manufacture of colored silks was, of course, originally introduced into India from China, but at what period it is almost impossible to say. They are mentioned, as we have seen, in the Ramayana, but whether of Chinese manufacture or Indian cannot now be determined. In the Mahabarata it is said that the Chinas, Hunas, Kaskas, and Cauchas, who lived in the mountains, "brought as tribute to Yudhisthira, silk and silkworms." If the "Chinas" here mentioned were really the Chinese, the question would be settled, but from their association with the Hunas, &c., they were probably some tribe of the North-Western Himalayas; and so everything is left in obscurity as to the first introduction of Chinese silk into India. It is not even known whether the Arabs, in their first arrival in India, found the silk manufacture already going on there, or introduced it themselves. In the Bible the first undoubted notice of silk is in the Revelation xviii 12. The Hebrew terms which are supposed to refer to silk are *meshi* and *demeshek*. The former, in Ezek. xvi 10, 13, is translated by "silk," and the latter, in Amos iii 12, by Damascus:—"Thus saith the Lord, As the shepherd taketh out of

the mouth of the lion two legs or a piece of an ear, so shall the children of Israel be taken out that dwell in Samaria in the corner of a bed, and in Damascus in a couch." It has been thought that in this verse *demeshék* should be translated by silk. The *shesh* [probably the same word as *demeshék*] of Genesis xli 42, of many chapters in Exodus, and of Ezekiel xxvii 7, is in all these places uniformly translated in the authorized English version of the Bible by "fine linen" and "linen," that is, of Egypt. But in Genesis xli 42, the margin gives "silk," and *shesh* is translated by "silk" in Proverbs xxxi 22. Elsewhere the Hebrew words which have been translated by "linen" and "fine linen" are *bad*, in Exodus xxviii 42, xxxix 28, Leviticus vi 10, and xvi 4, 23, 32, 1 Samuel ii 18, and xxii 18, 2 Samuel vi 14, 1 Chronicles xv 27, Ezekiel ix 2, 3, 11, and x 2, 6, 7, and Daniel x 5, and xii 7; *butz* [βύσσος], 1 Chron. iv 21, xv 27, 2 Chron. ii 14, iii 14, and v 12, Esther i 6, and viii 15, and Ezekiel xxvii 15; *sadin*, Judges xiv 12, 13; *etun*, Proverbs vii 16, a word which, if it is identical with the Greek ὀθόνη and ὀθόνηον, would mean not linen but cotton; and *pishtah*, Leviticus xiii 47, 48, 52, 59, Deuteronomy xxii 11, and Jeremiah xiii 1, translated "flax" in Exodus ix 31, Judges xv 14, Proverbs xxxi 13, Isaiah xix 9, and xlii 3, and Hosea ii 5; and "tow" in Isaiah xliii 17, *pistah* in fact denoting in Hebrew not only linen stuffs, but flax, and the flax plant. Richstofen believes the *sherikoth* of Isaiah xix 9, to be silk. It is difficult to believe that the Egyptians did not weave raw silk, as we know that they possessed the art of reducing Chinese silks to a sort of muslin-like web,

"A wondrous work, of thin transparent lawn,"

as Lucan describes it [Bk. x] in the account he gives of Cleopatra's feast to Cæsar; and it is quite possible that "the fine linen of Egypt," and "the fine linen of Colchis," which was sent to Sardis to be dyed [Herodotus ii 105], may have included silk.

It was not, however, until the time of Julius Cæsar [B.C. 47] that Chinese silks began to be largely introduced into Southern Europe, and Virgil is the first classical writer who is supposed to allude unequivocally to it, in the second *Georgic*:

“Black ebon only will in India grow,
And odorous frankincense on the Sabæan bough.
Balm slowly trickles through the bleeding veins
Of happy shrubs in Idumæan plains.
The green Egyptian thorn, for medicine good,
With Ethiop's hoary trees, and woolly wood,
Let others tell: and how the *Seres* spin
Their fleecy forests in a slender twine.”

Aristotle certainly knew the silkworm, *βόμβυξ*, and its cocoons, *βομβύκια*, [*Hist. An.* v 19 (17), 11 (6)]. He describes it as “A certain great worm, which has as it were horns, and differs from others, at its first metamorphosis produces a caterpillar [*κάμπη*], afterwards a bombylius [*βομβυλιός*] and lastly a necydalus [*νεκύδαλος*]. It passes through all these forms in six months. From this animal some women unroll and separate the cocoons, and afterwards weave them. It is said that this was first woven in the island of Cos by Pamphile, daughter of Plates, *πρώτη δὲ λέγεται ὑφῆναι ἐν Κῷ Παμφίλῃ Πλατέω θυγάτηρ.*” Pliny [Bk. xi 26 (22)], 400 years later, following Aristotle's description, also says that Pamphile was the first who discovered the art of unravelling the silkworms' webs, and spinning tissue therefrom:—“*Prima eas redordiri, rursusque texere, invenit in Ceo mulier Pamphila Latoi filia, non fraudanda gloria excogitatæ rationis ut denudet feminas vestis.*” This was indeed the well-known “*Coa vestis*,” which was so transparent that the form and colour of the body could be seen through it, as represented in the well-known *al fresco* painting at Pompeii of a dancing-girl, whose Coan vesture floats round her like a summer mist, disclosing the whole contour of her figure, and the perfect grace of her action, as through a veil of silken gauze.

“ As if unclothed she stands confest,
In a translucent Coan vest.”

In chapter 27 (23) of the same book Pliny describes the reeling of Coan silk, and mentions that men have not felt ashamed to make use of garments made of it in consequence of their extreme lightness in summer ; adding, “ the produce of the Assyrian silkworm we have left till now to the women only.” But in Book vi 20 (17) all he has to say about Chinese silk is that “ the Seres are famous for the wool that is found in their forests, and after steeping it in water they comb off a white down that adheres to the leaves,” “ and then to the females of our part of the world they give the twofold task of unravelling their textures, and of weaving the threads afresh.” This, however, is no more than Lucan’s “ Sidonian fabric which, wrought in close texture by the sley of the Seres, the needle of the workman of the Nile has separated,” in which he represents Cleopatra to have appeared before Cæsar in the full splendour of her charms when she feasted him in Alexandria. Even Dionysius Perigetes, so late as A.D. 275—325 would still seem to have had no better information regarding the natural source and the manufacture of Chinese silks than Virgil’s poetical allusion. What he says is: “ The Seres comb the variously colored flowers of the land to make their precious garments, rivalling in colour the flowers of the meadow and in fineness the spider’s web.” Aristotle does not say that the silkworm was reared, and raw silk produced in Cos ; he simply describes the silkworm, and says that silk was woven first in the island of Cos by Pamphile, the daughter of Plates. Pliny would seem to have confused the manufacture of silk from cocoons with the unravelling of Chinese silks and weaving their threads again into Coan gauze ; and perhaps with that of the silky stuff made from the floss-like beard of the *Pinna marina*, and still manufactured at Taranto, which was held in the highest estimation by the Greeks and Romans. Of raw silk, Indian, if not Chinese,

may have possibly been known, and woven to some extent in Western Asia, Egypt, and the island of Cos, for generations before Chinese silken stuffs were brought to the West. Then Pliny's only error would be in jumping to the conclusion, from Aristotle's simple statement about Pamphile, that the silkworm moth was bred in Cos. Pausanias, about 100 years after Pliny, also describes the silkworm; and the allusions to Chinese silk by the Roman poets from the time of Augustus are too numerous to cite. Ptolemy the Geographer [*circa* A.D. 139—'61] was the first to use the word *Serice* for China, or rather the northern part of it known later as Cathay; and the word is derived from the Chinese name of the silkworm, *see*, in Corean *sir*, whence the Greek *σίρη*, the silkworm, and *Σήρες*, the people furnishing silk. The Latin *sericum* has been traced back to the Mongol *sirkeh*, and the *serikoth* of Isaiah xix 9, has, we have seen, been supposed to be silk. If the later identification is correct, the trade in silk between the East and West goes back to the remotest antiquity. Be this as it may, it is clear that the silkworm and its cocoon were known to the Greeks and the Romans from the time of Alexander's expedition to India, and equally clear that Chinese silk stuffs were not generally known in Southern Europe before the time of Julius Cæsar, who first displayed a profusion of them in some of those magnificent theatrical spectacles with which he was wont to entertain the populace of Rome. It was at first used only by a few women of the highest and most opulent families. In the reign of Tiberius Cæsar a law was passed that no man should disgrace himself by wearing silk "*ne vestis serica viros foedaret.*" It was priced at its weight in gold, as shewn by the anecdote told of Valerian, A.D. 253—260:—"Vestem holosericam neque ipse in vestiario suo habuit, neque alteri utendam dedit. Et quum ab eo uxor sua peteret, ut unico pallio blatteo serico uteretur, ille respondit, *absit ut auro fila pensentur: libra enim auri libra serici fuit.*" And from the Rhodian naval

regulations [*Lex Rhodia*] which are preserved, at least the clauses *de jactu*, in the Digests of the Roman Laws, published A.D. 553, we find that unmixed silk goods [*holosericum*], if they were saved free from wet, were to pay a salvage of ten per cent. as being equal in value to gold.

But the demand for silken articles rapidly increased in spite of all prohibitions and restraints and of their enormous price. So great was the drain of specie from the Eastern Empire on account of silk and other Eastern productions, that the Emperor Justinian resolved to introduce the cultivation of silkworms into Europe; and encouraged by his promises and gifts, two Persian monks succeeded, about A.D. 550, in carrying the eggs of these insects to Constantinople. The Issidones, the inhabitants of the modern Khotan, had from the earliest ages been the chief agents in the transmission of silk from China over the Himalayas into India, and across the Pamir Steppe into Western Asia and Europe. Direct traffic between China and Turkestan only began about B.C. 114, and ended A.D. 120, when the overland trade in silk fell into the hands of the Persians. At first Justinian endeavoured by means of the Christian Prince of Abyssinia to wrest a portion of the trade from the Persians; but, failing in this attempt, he succeeded in obtaining his object at last by a mere accident. The two Persian monks, who had learned among the Seres the whole process of the culture of silkworms and the manufacture of silk, imparted their secret to the Emperor: and, being induced to return to China, succeeded in safely bringing back with them to Constantinople a quantity of eggs concealed in the hollow joint of a bamboo. The whole story is told by Procopius. The Greeks soon acquired great skill in the production of the raw silk, and carried on its manufacture at Thebes, Corinth, and Argos, and other places in the Peloponnesus, undoubtedly deriving their designs from the cotton and linen, if not silk looms of Al Modayn, Alexandria, Tabriz, Damascus, Tyre,

Berytus, and Antioch. Procopius indeed says that long before his time silk had been made at Tyre and Berytus. The manufacture was subsequently carried by the Saracens from Baghdad, Tabriz, Aleppo, and Alexandria into Sicily, and examples are extant of the Saracenic silks of Sicily of the twelfth century. Roger, king of Sicily, also carried a large number of silk manufacturers from Greece to Palermo A.D. 1147. From Sicily the manufacture spread into Italy and established itself at Florence, Lucca, Venice, Milan, and Genoa. From Italy Louis XI, in 1480, introduced the art into France at Tours, and in 1520 Francis I, having got possession of Milan, established the art at Lyons. Silk was made in England in the reign of Henry VI, but the great encouragement to its manufacture in this country was derived from the revocation of the Edict of Nantes by Louis XIV in 1685, which drove about 50,000 of the best French workmen to seek a refuge in England, where a large number of them established themselves at Spitalfields. When the old East India Company began to import Indian silks with other Eastern stuffs into England, a great deal of exasperation was felt by the home manufacturers of cotton, woollen, and silken goods; and at length the Legislature of this country was constrained to pass the scandalous law of 1700, already mentioned by which it was enacted "that from and after the 29th day of September, 1701, all wrought silks, Bengals, and stuffs mixed with silk or herba, of the manufacture of China, Persia, or the East Indies, and all calicoes, painted, dyed, printed or stained there, which are or shall be imported into this kingdom, shall not be worn or otherwise used in Great Britain; and all goods imported after that day, shall be warehoused or exported again."

Whether the Saracens found the manufacture of silk already established in India or not, it is evident that they largely influenced the designs of its ornamentation in that country. *Kincobs* are now made in Ahmedabad and Benares, identical in

design with old Sicilian brocades ; and the Saracenic Sicilian silks abound in designs which prove their origin in Assyrian, or Sassanian, and Indian art. We know that the Saracens and Moors introduced colonies of Persians, and it may be presumed also of Indian workmen into Spain, to help them in their architecture : we know that Greek architects built some of their mosques at Cairo, and that the Mogol Emperors of Delhi introduced Italian and French artists and workmen to design some of their great buildings in India. Not only the *Taj*, but nearly every large native building in Rajputana, is decorated with most exquisite mosaics, never seen by Europeans, of the period of Austin de Bordeaux. Thus styles of art act and react upon one another, and nothing throws more light on the affinities and development of the modern decorative arts of Europe and India than the history of the introduction by Justinian of the silk manufacture from China into the West.

The Principal Places of Silk Manufacture in India.

The Panjab.—Silk weaving in the Panjab is still a prosperous industry. The raw silk esteemed the best by the native manufacturers is that of Bokhara and Khorasan ; and Amritsar, and Multan are the principal marts for its sale. Silk, the produce of the Panjab, is also coming into use. The favorite colours in which it is dyed are :—

Yellow, dyed with *akalbir*, the root of *Datiscus Canabinus* ; also with *asbarg*, the flower of the “Cabul Larkspur” [*Delphinium* sp.].

Orange, or *soneri*, dyed with *narsingar*, the honey-scented flower of *Nyctanthes Arbor-Tristis*.

Scarlet, with cochineal first, which gives a crimson colour, and afterwards with *narsingar*, which turns it vermilion.

Purple, with cochineal first, and afterwards indigo.

Lilac, with the same materials, mixed lighter.

Blue, of all shades, with indigo.

Green, of all shades from very dark to very light, dyed with indigo, and various yellow dyes, *asbarg*, *narsingar*, &c. Pea-green [*anguri*] is a very favorite colour, when woven with a scarlet stripe.

Brown, of several shades, "sandalwood colour" [*sandali*], "almond colour" [*badami*], &c., chiefly used on thread for embroidery.

Grey, produced by sulphate of iron and galls.

Black, dyed with indigo, &c.

Madder is not employed in dyeing silk, but the use of the aniline dyes is now extensive.

The silk cloth of the Panjab is very thick and close, and strong, and is quite free from the vulgar gloss of the fraudulently sized European silks, for which the natives of India have the utmost contempt. The most common of all the native Panjab silk fabrics is the *gulbadan* or striped silk; pale green with a scarlet stripe; dark, nearly black green with a scarlet stripe; yellow, with a scarlet, or crimson stripe; purple with a yellow stripe; crimson with a white stripe; and white with a green, or any other stripe. Plain silk is called *daryai*. If shot with two colours, usually red and green, it is called *dup-chan*, "sunshine and shade." If shot with many colours, as in Cashmere, *par-i-taus* and "peacock-feathers." Checked silks, like checked cottons, are called *charkhana*. *Lunghis*, *khesis*, &c., are woven garments of the same description as those in cotton of the same name. The *lunghi* when of silk is usually enriched with a border of gold or silver, and variegated silk finished off with a gold or silver fringe. The silken *khes* is also edged with gold or silver; and in Lahore beautiful deep scarlet *khesis* are made, with broad gold borders, and are much sought after. All figured or damasked silks are called *Suja Khani*, from the name, Mr. Baden Powell infers, of the person who first introduced their manufacture into the Panjab. They are made principally at Bhawalpur. Gold and silver brocaded silk is called *kinkhab* [*kincobs*]. Very little of it is made in the Panjab. Most of what is seen is

imported from Benares and Ahmedabad; and the spread of the European fashion of plain dressing is fast driving it out of use for clothing. Silk muslin [*malmal*], and net [*dalmiyan*] is also made, chiefly for stamping with gold leaf, and brocading. Velvet [*makmal*] is not made. Formerly it was regularly imported into the Panjab from Russia, but since the English occupation of the country, it has been imported from England and France. Satin [*atlas*] is still imported from Russia, owing to its superior durability to the flimsy sized satins of England and France. Flowered satin [*mushajjar*, i.e. laid out with trees] is the favorite denomination. Satin from China, velvet from Central Asia, and Persia, and crimson silk from Turkey called *debai Rumi*, and the famous Andijan silk called *rumal Andijani*, of Central Asia are also imported.

The principal place of *daryai* and *gulbadan* weaving is Amritsar. Multan is celebrated for its *khesis* and *lunghis*, and also produces some damasked silks [*Suja-Khanis*]. Bhawalpur is especially noted for its damasked silks. At Peshawur silk is largely made for sale in Cabul, Balk, and Merv. Throughout Cashmere the manufacture of silk of all denominations flourishes. The weavers of Kushab and Bhera, in the Shappur district, make *lungis* and *kesis*; and some are made also at Jhelam, and at Batala in the Gurdaspur district. Netted silks and miscellaneous silk articles are extensively made in Nurpur, Pattiala, and Nabha.

Sindh.—In Sindh, silk *khesis* and *lunghis*, are manufactured in all the chief towns; and the silk cloths of Tatta, as already noticed under cotton manufactures, were at one time widely famed.

North-Western Provinces.—In the North-Western Provinces, Benares is one of the chief seats of the *kinco*b manufacture of India.

Oudh.—In Oudh, the most important manufacture at Lucknow is still that of silver and gold brocades and laces. The basis of all these fabrics is gold and silver, or silver-gilt wire drawn to an extreme tenuity, and worked up either as round wire, or flattened into bands, or beaten and cut out into spangles.

The *kalabatun* and lace makers of Lucknow are paid at an incredibly low rate. The anonymous writer in the *Oudh Gazette*, 1877, observes :—"It is only in India that patience, dexterity of manipulation, grace in designing, trustworthiness in handling gold and precious stones, and the skill which is the result of many years of application, can be bought for threepence a day. Less advance has been made in wire-drawing in England than any other art. The process already described is identical with that used in Europe : the only difference is that the European workman is supplied with motive powers from a perpetual band worked by a steam-engine, and the native workman uses his marvellously flexible toes for the same purpose."

Bengal.—In Bengal, the manufacture of silk was at one time an important industry in the Bardwan and Rajshahye divisions. Now the growing complaint from year to year is that Bengal silks can no longer be sold at remunerative prices. The exports are annually decreasing. If the Bengal silk manufacture fails it will react seriously on the mulberry growers. It is hoped, however, that a good future is opening for the wild *tasar* silk of Bengal and other parts of India, to which the attention of European manufactures has been drawn of late years by Mr. Wardle of Leek. In the Rajshahye division the principal manufacture is still of silk, which is made chiefly at Maldah, Bogra, Murshedabad and Rajshahi. The silk cloth of Maldah is known as Maldahi cloth. It is on record that in 1577 Shaik Bhik, of Maldah, sent three ships of Maldahi cloth to Russia by the Persian Gulf. In those days the principal patterns were *mazchar*, "ripples of silver," *bulbulchasm*, "nightingale's eyes," *kalintarakshi*, "pigeon's eyes," and *chand-tara*, "moon and stars." In Bogra, the once celebrated silk cloth called *garrad* is now made only to order.

The city of Murshedabad is still with Benares and Ahmedabad, famous all over the world for its gold brocades or *kincobs*. The two best known patterns made there are *murhgala*, "peacock's neck," and *dup-chan*, "sunshine and shade." But the

manufacture has greatly declined during the last fifty years. Silk is largely manufactured in the Nuddea division. The largest silk filatures there belong to Messrs. Watson and Co. The cocoons are supplied by seventeen villages: and the annual turn-out of silk is valued at 2,700*l*. A cloth called *basti* is made in the Bhagalpur division of *tasar* silk in the warp, and cotton in the weft, which is very durable, and in great demand both by Europeans and natives. These *bastis* are of uniform colour, dyed after being woven. Unfortunately the weavers are too poor to embark largely in the manufacture. *Tasar* cloth is made throughout Assam, and Orissa. There are an immense number of *tasar* silk weavers in Chota Nagpur; but the growing taste among the upper classes for English clothes is depressing the trade. Inferior *tasar* silk is made in the Patna division, particularly at Gaya.

Central Provinces.—In the Central Provinces brocaded silk cloths are manufactured in all the cities which have gained distinction for their cotton manufactures interwoven with gold and silver wire; round, flattened [*badla*], or twisted round silk [*kalabatun*]. A silk cloth is made at Nagpur, of a brilliant crimson colour, deeply bordered with gold. *Mushru* ["permitted"] silks are woven at Chanda: and *tasar* silk at Narsingpur.

The Berars.—In the Berars silk is woven at Elichpur, Akola, and other large towns; and *tasar* silk at Garcharoli.

Bombay.—In the Bombay Presidency the *kincohs* of Ahmedabad are the noblest produced in India. Before the beginning of the sixteenth century the silks, brocades [*kincohs*] and dyed cotton cloths of Ahmedabad, generally bearing the name of Cambay, the port of their shipment, were in demand in every eastern market from Cairo to Peking. The wild tribesman of the Malayan Archipelago did not consider his freedom earned until he had stored up a pile of them equal in height to himself. On the coast of Africa they were exchanged for four times their weight in gold. The Portuguese on first going to India found the

merchants of Cambay their keenest rivals, and their ships their richest prizes. Portuguese piracies gave the first shock to the prosperity of Ahmedabad. In the eighteenth century its trade was still further drawn away from it by the English factory at Surat : and from that date this once magnificent emporium of the commerce of Western Asia, gradually declined to its present position of serene and opulent isolation. The chief excellence of its silk manufacture lies in the brilliant colours of its plain silks, and the purity and strength of its brocades. China is the chief source of supply for the raw silk, but some silk comes from Bengal, some from Bussora, and some from Bukhara. At Ahmedabad it is reeled, sorted, spun, warped, dyed, dressed, woven, and brocaded. To weave the brocades a more complicated arrangement of the loom is necessary than for ordinary silk weaving. A kind of inverted heddles called the *naksh* ["picture" *i.e.* design] is hung above the warp immediately behind the heddles, the other ends of the cords being fastened to a horizontal band running below the warp. Like the cords of a heddle the *naksh* strings where they cross the warp have loops through which certain of the warp threads are passed. But instead of getting an up-and-down motion from treddles pressed by the weaver's foot, the *naksh* is worked, from above, by a child seated on a bench over its father's head. The little fellow holds a bar of wood, and by giving it a twist, draws up the cords attached to the threads of the warp, which, according to the *naksh*, or pattern, are at any time to appear in the surface of the web. The weaver, at the head of the loom, adds variety to his design by working silks of divers colours into the woof, along with threads of silver and gold : and thus the vision grows in the sight of the young child seated aloft.

Considerable quantities of silk goods are manufactured at Surat. *Mashru* and *elaicha*, of mixed cotton and silk, formerly much used, are now going out of fashion : but the demand for a smooth polished silk cloth known as *gaji*, used for *cholis* [bodices], even

by the poor, is increasing. The weaving of brocade, or *kinco*, is an important industry at Surat, and although the growth of European fashions in dress has considerably reduced the local consumption, an increased demand has recently sprung up in Siam and China for these Surat and Ahmedabad brocades. They are also sought by the wealthy in the native states all over India.

The silks of Tanna are of ancient fame. A very superior yellow cloth called *pitambar* [literally "yellow"] is made there still. It is also made at Yeola, in the Nassik collectorate, and at Poona. It is worn by both men and women on sacred occasions. Other fine silks likewise are woven both at Yeola and in the town of Nassik, with borders of silver or gold. Silk *saris* are made at Bagmandli in the Ratnagiri collectorate: and Gulutgud in the Kaladji district is distinguished for its *cholis* and *saris* of mixed silk and cotton.

Madras.—In the Madras Presidency silk is manufactured throughout Mysore; and at Kengeri, Closepet, Channapatna, Kankanhalli, Nelamangala, Kolar, Malura, Kunigal, and Huliurdurga. Silk purses, cords, and tassels, are made largely by the Mahommedans of Sindkurgate, Narsipur, and Chauraypatna, in the Hasan district. Silk of rich texture and costly patterns is made at Bangalore. There are silk manufactures also in the Tumkur district, and in the Chittledrug district at Malkalmuru and Harihar. At Mysore a silk cloth interwoven with lace commands a high price.

Gold and Silver Lace.

There is an immense manufacture all over India, and particularly in the old royal cities, of gold and silver wire, gold and silver thread [*kalabatun*], gold lace, gold and silver foil, spangles, and other tinsel, for trimming shoes and caps, stamping muslins and chintzes, embroidering shawls, and other woollen fabrics, weaving into brocades, and the manufacture of gold and silver cloth of tissue. In the Panjab, Delhi is the great depôt of

the crafts of gold lace weaving, spangle-making, gilt embroidery, and all the trades connected with silver-gilt wire-drawing, and gilt thread. But the Lahore *kandla kash*, or gilt wire-drawers enjoy a reputation for special purity in the gold and silver employed by them.¹ Gold spangles [*bindli*] are a specialty of Kangra, where they are stuck on the face and forehead with gum. In Lucknow the principal varieties of lace formed from gold and silver wire are *lachka*, *kalabatu*, and *lais* [lace]. In the variety called *lachka* the warp is of silver-gilt strips, woven with a woof of silk. It is often stamped with patterns in high relief, and is much and widely used for edging turbans and petticoats. In the variety known as *kalabatu*, strips of gilded silver are twisted spirally round threads of yellow silk, and then woven into a tape or riband exactly resembling *lachka* in appearance. In the variety called *lais* the woof is of wire and the warp of silk. The strips of silver gilt used in making *kulabatu* and *lachka* lace are prepared, as has been already stated, by beating silver-gilt wire flat. The natives of India are far superior to the Europeans in the art of wire-drawing.

The artisans of Murshedabad are renowned for their skill in gold and silver lace making, for embroidery. The making of gold and silver thread, and gold and silver lace, and gold and tin foil, and all manner of tinsel ornaments, is a most thriving industry at Ahmedabad, Surat, and Poona. In the town of Bombay also gold and silver thread is manufactured and used for lace. Mr. George Terry says, that with such nicety is the operation of preparing the wire performed, that two shillingworth of silver can be drawn out to nearly 800 yards. In the manufacture of the fabric known as *tas*, the gold and silver wire used is beaten flat, forming the warp to a woof of thin silk or cotton thread. The working up of this thread into ornamental edgings for *saris* is one active branch of the manufacture. The richest and most highly-prized border is the *shikar* ["hunting"] pattern made in

¹ Mr. J. L. Kipling in the *Lahore Guide*.

Poona. Gold spangles for ornamenting the forehead are made at Surat, and much worn by the Hindu women.

In the Madras Presidency gold and silver lace and the manufactures connected with it are made largely at Dindigal in the Madura collectorate, at Bangalore, in Mysore, Vizagapatam, Chicacole, and other places.

Embroidery.

Indian embroidery is done on silk, velvet [Plate 69], cotton, wool, and leather; and the embroidery on wool of Cashmere, both loom-wrought and with the needle, is of historical and universal fame. The Cashmere shawl trade is of the highest antiquity and importance, and it is very deplorable that it should have been recently checked, owing to the use of French designs and the magenta dyes in the manufacture. The cone pattern, with its flowing curves and minute diaper of flowers, characteristic of these shawls, is well known. According to Mr. Baden Powell [*Manufactures of the Punjab*, pp. 39-40], the natives distinguish the ornamentation of the shawls by different names. The *hashia* or border is disposed along the whole length, and according as it is single, or double, or triple, gives its particular denomination to the shawl. By the term *pala* is meant the whole of the embroidery at the two ends, or, as they are technically called, the heads of the shawl. The *zanjir* or chain runs above and below the principal mass of the *pala*. The *dhour*, or running ornament, is situated on the inside of the *hashia* and *zangir*, enveloping the whole field of the shawl. The *kunjbutha* is a corner ornament of clustering flowers. The *mattan* is the decorated part of the field or ground, and the *butha*, the generic term for flowers, is specifically applied alone to the cone ornament, which forms the most prominent feature of the *pala*. Sometimes there is only one line of these cones. When there is a double row, the *butha* is called *dokad*, *sekhad*, up to five, and *tukadar* above five. A special variety of this ornamentation is designed for the Armenian market, known by the

name of *Tara Armeni*. The few Cashmere shawls shewn in the Prince of Wales' collection are superlatively fine, some of the usual cone or shawl pattern, others snuff-colored, of softest texture inwrought with gold. One is worked with a map of the city of Srinagar, the capital of Cashmere; the streets and houses, gardens and temples, with the people walking about among them, and the boats on the deep blue river being seen as clearly, in the quaint drawing of a mediæval picture, as in a photograph. Another shawl, more soberly colored, is one mass of the most delicate embroidery, representing the conventional Persian and Cashmere wilderness of flowers, with birds of the loveliest plumage singing in the bloom, and wonderful animals stalking round, and wondering men.

Besides shawls, an immense variety of articles are made in Cashmere of shawl stuff. The wool employed in the manufacture is the down called *pushm* of the so-called Cashmere goat of Ladak: and lately the weaving of *pushmina* shawls has been introduced from Cashmere into Lucknow. The finest of the woollen stuffs called *patu* in Kangra and Cashmere, is made of camel's hair, and is therefore a true camlet. In the Panjab it is embroidered in Cashmere and at Lahore, Amritsar, and Delhi. It is also embroidered in Sindh, and is generally made up in loose burnous-like robes called *chogas*, much used by English officers in India as dressing-gowns. Ctesias compares camel's hair for its softness to Milesian wool, which Theocritus describes as "softer than sleep." A rough but remarkably durable *patu* is made from goat's hair. At Ludhiana in the Panjab the wool of Rampur, and at Amritsar the wool of Kerman, is worked up into a variety of goods, which closely resemble the finest embroidered fabrics of Cashmere. The plain shawls, colored ivory-white, scarlet, turquoise, blue, and grey, which are known in this country by the name of Rampur *chadars*, are made at Ludhiana of Rampur, that is, Bishair wool. There are 500 shops of wool manufacturers in the city, and 2,000 people employed in weaving. Sirsa,

Rohtak, Leia, and Lahore, have also large woollen manufactures beside their trade in *pashmina*, or Cashmere shawl wool: but the hill districts of Cashmere, Kangra, and Simla, produce the greatest variety of woollen fabrics. Leia, in the Panjab, is noted for its blankets; and they are likewise made of the finest quality and often beautifully patterned throughout Rajputana, especially at Tod-ghar, and in Meywar; and in Thar and Parkar, in Sindh. Superior blankets are made in Nuddea, at Shahabad in Patna, at Lohar-dugga in Chota Nagpur, and at Purneah in Bhagalpur, all in Bengal: at Ahmedabad in Bombay: and at Chikanayakanahalli in the Tumkur district of Mysore. Black sackcloth blankets, called *kambhlis*, are woven all over India. They are a special manufacture of Kudlighi in Bellary: also of the Hasan, Kadur, and Chittledrug districts of Mysore.

Muslin is embroidered at Dacca and Patna; and at Delhi also in coloured floss silk. Rich brodered work is made at Hyderabad and other places in Sindh, in colored silk thread and gold and silver. The embroidery of Nauanagar, and Gondal in Kathiwar, for which Cutch gets the credit, in colored silk thread, is of the same style as the well-known embroidery of Resht on the Caspian. Either the Armenian merchants introduced the style into Cutch, or from Cutch into Persia. Gold is also used in Cutch for embroidery in the Persian style of Ispahan and Delhi. The gorgeous gold embroidered velvets [*makhmal*] of Lucknow, and of Gulbargah, Aurungabad, and Hyderabad in the Deccan, used for canopies of costly state, umbrellas of dignity, elephants' cloths, horse cloths, and state housings and caparisons generally, are largely represented in the India Museum. In form they have remained unchanged from the earliest periods of Indian history, but their sumptuous gold scroll ornamentation is in design distinctly of Italian sixteenth century origin. The Portuguese were in the habit of sending satin to India to be embroidered by natives in European designs. The embroidered native apparel of Cashmere, Amritsar, Lahore, Delhi, Lucknow, Murshedabad,

Surat and Bombay, is much prized all over India; and that of Vizagapatam and Chicacole has an extensive reputation on the Coromandel coast.

It would appear that carpets originated in embroidery, and that carpets were first used, like embroideries, for hangings and palls. The earliest notices we have of this art are in the Bible, in the accounts in the Pentateuch of the furnishing of the Tabernacle, and elsewhere. In Judges v 30, we have in the song of Deborah,—"Have they not sped? have they not divided the prey, to every man a damsel or two; to Sisera a prey of divers colours of needlework, of divers colours of needlework on both sides, meet for the necks of them that take the spoil?"—the description of a style of embroidery, both needle-wrought and loom-made, still held in great esteem in India and Persia. In Ezekiel xxvii 23, 24, we read "Haran and Canneh and Eden [*i.e.* Aden], the merchants of Shebah, Asshur, and Chilmad, were thy merchants. These were thy merchants in all sorts of things, in blue clothes and brodered work, and in chests of rich apparel, bound with cords and made of cedar, among thy merchandise,"—a passage which is thought to refer to Cashmere shawls imported into Tyre through Aden. The great demand in ancient times for brodered work was for the hangings and veils of temples, and the art originated with the women who wove these veils for the temples of Egypt, India, Babylonia, and Phœnicia. To Greece and Rome embroidery came from Phrygia, and hence an embroiderer was called in Rome *Phrygiō*, and embroidered robes *Phrygiones*. Gold brodered work was called *auriphrygium*, whence the old English word Orphrey. Such work is now called "Passing." In India we find all the varieties of needlework that are found in Europe: *opus plumarium* or feather stitch, *opus pulvinarium* or cross stitch, *opus Anglicum* or chain stitch, and worked in circular lines also, but never rubbed down to obtain an effect of relief, *opus pectineum* or woven work in imitation of embroidery, and *opus consutum*, *appliqué* or cut work, in which the ornamental

figures are cut out in separate pieces of silk or cloth, and sewn on to the stuff to be embroidered. These *draps entaillez* are obviously the origin of the Persian carpets of Mashhad. The parrots, rabbits, tigers, and fawns, represented upon them have evidently been imitated from figures of these birds and beasts cut in cloth for *appliqué* work.

In many parts of India muslin is very beautifully embroidered with green beetle wings and gold. In the Prince's Collection is a piece of muslin embroidered in gold and painted spangles and imitation pearls, with a perfect effect of reality and richness. Leather is beautifully embroidered at Phaka in Sindh. The embroidered leather work of Gujarat has already been noticed. Marco Polo, bk. iii ch. xxvi, writing of "Gozurat," says: "They also work here beautiful mats in red and blue leather, exquisitely inlaid with figures of birds and beasts, and skilfully embroidered with gold and silver wire. They are marvellously beautiful things; they are used by the Saracens to sleep upon, and capital they are for that purpose." This was written 600 years ago, and is still as true to the work described as if it had come by the last mail from Bombay. But the most wonderful piece of embroidery ever known was the *chadar* or veil made by order of Kunderao, the late Gaekwar of Baroda, for the tomb of Mahommed at Medina. It was composed entirely of inwrought pearls and precious stones, disposed in an arabesque pattern, and is said to have cost a crore [= ten millions] of rupees. Although the richest stones were worked into it, the effect was most harmonious. When spread out in the sun it seemed suffused with a general iridescent pearly bloom, as grateful to the eyes as were the exquisite forms of its arabesques.

Carpets.

Indian carpets are of two kinds, cotton and woollen; generally they are classed as cotton *daris* and *satrangis*, and woollen rugs



GLAZED POTTERY, SINDH.

and carpets, but in fact *daris* is the native word for a rug, and *satrangi* for a carpet. *Daris* and *satrangis*, however, are perfectly distinct in style and make from the usual Indian pile carpets and rugs. *Daris* and *satrangis* are made of cotton, and in pattern are usually striped blue and red, or blue and white, or chocolate and blue; and often squares and diamond shapes are introduced, with sometimes gold and silver, producing wild picturesque designs like those seen on the bodice and apron worn by Italian peasant women. They are made chiefly in Bengal and Northern India, and, like the loom-made *dotis* and *saris*, illustrate the most ancient ornamental designs in India, perhaps earlier even than the immigration of the Aryas. Striped *satrangis* of very superior texture are made at Rungpur in the Rajshahye division of Bengal. The manufacture of pile carpets was probably introduced into India by the Saracens. They certainly introduced it into Europe, where, in the Middle Ages, carpets of the nature of woollen stuffs, ornamented somewhat in the manner of *draps entaillez*, were called Sarracinois. Towards the end of the twelfth century the Flemings began to weave pictured tapestries, but it was not until the reign of Henry IV, A.D. 1596, that the modern carpet manufacture was introduced from Persia into France. It is from Persia that the Saracens must have derived the art of making pile carpets, for nearly all the patterns on them in India and elsewhere can be traced back to Persian originals. In the paintings of the old masters we see, in the representation of oriental carpets on floors, and hung out of windows, the origin of the designs afterwards made vulgar by their imitation in "Brussels carpets." But it is not easy to determine when woollen pile carpets were first made in Persia. Homer mentions carpets, and by their present name *τάπητα*, as in *Il.* ix. 200.

"With that the chiefs beneath his roof he led
And placed in seats with purple carpets [*τάπησίν τε πορφύρεϊσιν*] spread."

And *Od.* iv 124 :

“ To spread the pall [τάπητα] beneath the regal chair,
Of softest wool [μαλακοῦ ἐρίοιο] is bright Alcippe's care.”

And *Od.* iv 298 :

“ And o'er soft palls of purple grain, unfold
Rich tapestry [τάπητας] stiff with inwoven gold.”

And *Od.* x 12 :

“ on splendid carpets lay.”

[Εὔδουσ' ἐν τε τάπησι]

Pliny, where [Book viii, ch. 73-74 (48)] he describes the different kinds of wool and their colours, and different kinds of cloths, says : “ The thick flocky wool has been esteemed for the manufacture of carpets from the earliest times ; it is quite clear from what we read in Homer that they were in use in his time. The Gauls embroider them in a different manner from what is practised by the Parthians. Wool is compressed also for making a felt. . . . and the refuse, too, when taken out of the vat is used for making mattresses, an invention, I fancy, of the Gauls. . . . Our ancestors made use of straw for the purpose of sleeping upon, just as they do at present when in camp. The *gausapa* has been brought into use in my father's memory, and I myself recollect the *amphimalla* [napped on both sides] and the long shaggy apron being introduced.”

It is evident that some sort of baize, or felt, or drugget, used as tapestry for the wall, and for coverlets for beds, as well as for rugs or carpets, is meant in all these passages. Arrian, in his account of the tomb of Cyrus [Bk vi 29], which is taken from Aristobulus, who not only was an eye-witness of it, but was ordered by Alexander to repair it, says : “ Within this edifice was the golden coffin, wherein the body of Cyrus was preserved, as also the bed whose supporters were of massy gold curiously wrought, the covering thereof was of Babylonian tapestry, the carpets underneath of the finest wrought purple ; the cloak and other royal robes were of Babylonian, but the drawers [*pijamas*]

of Median workmanship. Their colour was chiefly purple, but some of them were of various dyes. The chain round his neck, his bracelets, his earrings, and his sword, were all of gold, adorned with precious stones. A costly table was also placed there, and a bed whereon lay the coffin, which contained the king's body." Athenæus has many allusions and references to carpets, and in the account which he gives [Bk. v ch. 27], from Callixenus the Rhodian [B.C. *circa* 280], of a banquet given by Ptolemy Philadelphus at Alexandria, the carpets which were laid in the tent are accurately described: "There were also golden couches, with the feet made like sphinxes, on the two sides of the tent, a hundred on each side. . . . And under these there were strewed purple carpets of the finest wool, with the carpet pattern on both sides. And there were handsomely embroidered rugs, very beautifully elaborated. Besides this, thin Persian cloths covered all the centre space where the guests walked, having most accurate representations of animals embroidered on them." It is not possible to say what kind of carpets those mentioned by Arrian were, beyond that they were Babylonian; but the carpets described by Callixenus are the woollen *galims* still made in Kermanshah, the same on both sides, the "*Babylonica texta*" of Martial, and the embroidered *shamyanas*, or canopy cloths [*aulea*, Arras], of which a superb one is shewn by the Prince of Wales, still made in Persia, and evidently the "*Babylonica peristromata*" and, "*consuta tapetia*," "Babylonian hangings" and "embroidered tapestry" of Plautus. As velvet [*makhmal*] probably originated in Central Asia, and certainly felt, I think it very likely that it was there also that the Turkish tribes first developed the art of sewing tufts of wool on the strings of the warp of the carpets they had learned to make from the Persians, and that the manufacture of these pile carpets was thus introduced by the Saracens into Europe from Turkestan through Persia. The Turks were driven to the invention by the greater coldness of their climate.

These pile carpets are called in India specifically *kalin* and *kalicha*. The foundation for the carpet is a warp of the requisite number of strong cotton or hempen threads, according to the breadth of the carpet, and the peculiar process consists in dexterously twisting short lengths of colored wool into each of the threads of the warp so that the two ends of the twist of colored wool stick out in front. When a whole line of the warp is completed, the projecting ends of the wool are clipped to a uniform level, and a single thread of wool is run across the breadth of the carpet, between the threads of the warp, just as in ordinary weaving, and the threads of the warp are crossed as usual; then another thread of the warp is fixed with twists of wool in the same manner; and again, a single thread of wool is run between the threads of the warp, across the carpet, serving also to keep the tags of wool upright, and so on to the end. The lines of work are further compacted together by striking them with a blunt fork [*kangz*], and sometimes the carpet is still further strengthened by stitching the tags of wool to the warp. Then the surface is clipped all over again, and the carpet is complete. The workmen put in the proper colours either of their own knowledge or from a pattern. No native, however, works so well from a pattern as spontaneously. His copy will be a facsimile of the pattern, but stiff, even if it be a copy of his own original work. His hand must be left free in working out the details of decoration, even from the restraint of the examples of his own masterpieces. If he is told simply, "Now I want you to make something in this style, in your own way, but the best thing you ever did, and *you may take your own time about it, and I will pay you whatever you ask*," he is sure to succeed. It is haggling and hurry that have spoiled art in Europe, and are spoiling it in Asia. The loveliest little mosque in Bombay was built without a plan, the workmen day by day tracing roughly on the ground the designs by which they worked. The best Oriental pile carpets are those of Persia, particularly those made

in Khorassan, Kirman, Ferahan, and Kurdistan, and of Turkey, made chiefly at Ushak in Asia Minor, near Smyrna. In India they are chiefly made in Cashmere, Afghanistan, the Panjab, Baluchistan, and Sindh, at Agra, Mirzapur, Jubbulpur, Hyderabad and Warangal in the Nizam's Dominion, and on the Malabar coast and at Masulipatam. Velvet carpets are also made at Benares and Murshedabad, and silk pile carpets at Tanjore and Salem. The carpets shewn at the India Museum have been arranged by Mr. Vincent Robinson, by whom many of them are lent; and the extent and completeness of the series is a sufficient evidence of the important trade in Indian carpets which has sprung up since 1851, when for the first time, through the liberality of the Indian Government, they were brought prominently to the notice of English people. Unfortunately there has been a great falling-off in the quality and art character of Indian carpets since then, partly, no doubt, owing to the desire of the English importers to obtain them cheaply and quickly, but chiefly owing to the disastrous competition of the Government jails in India with the native weavers.

The chief blame however for this lamentable deterioration must be attributed to the want of knowledge and appreciation, in the general mass of the English purchasers. Few people seem able to realise that when buying oriental carpets they are in fact choosing works of art, and not manufacturer's "piece goods," produced at competition prices. Formerly the native artist strived his utmost to produce a pleasing design, knowing that the payment he would obtain for his work would depend upon the beauty of its design and superexcellence of fabrication; but now his first thought is to reduce his work to the tariff of charges ruling in the European markets, and to deliver it punctually within the time fixed by the export firms of Calcutta, Madras, and Bombay. The natural result is seen in a comparison of the old carpets of Cashmere, Sindh, and Baluchistan, the carpets, that is to say, of only twenty and thirty years

ago, with those now made in these countries, to say nothing of those manufactured in the Government jails of India. Attempting to set a trade value of "so much per square yard" upon these art works is not more absurd, or less ruinous to their production, than it would be to apply the same principle to the purchase of pictures.

The difference in the European and Asiatic methods of rewarding art manufacturers is indeed the original reason why so little art is found in European manufactures, or in oriental works produced for the European markets; and indicates the true cause of the immense superiority of the ancient examples possessed by such *connoisseurs* as Signor Castellani, Sir Frederick Leighton, Baron Rothschild and M. Albert Goupil, over the sumptuary articles now imported from the East. Thus the carpet jury of the Paris Exhibition of 1878 based their awards as much upon the quantity produced by each competing manufacturer, as upon the quality, in point of beauty and technical excellence, of their productions; and positively gave the highest honours to those who could shew the largest amount of business done in their trade. In the East, as we have seen, the princes and great nobles, and wealthy gentry, who are the chief patrons of these grand fabrics, collect together in their own houses and palaces all who gain a reputation for special skill in their manufacture. These men receive a fixed salary, and daily rations, and are so little hurried in their work that they have plenty of time to execute private orders also. Their salaries are continued even when through age or accident they are past work; and on their death they pass to their sons, should they have become skilled in their father's art. Upon the completion of any extraordinary work it is submitted to the patron, and some honour is at once conferred on the artist, and his salary increased. It is under such conditions that the best art work of the East has always been produced. The finest oriental rugs of our time, which at the Vienna Exhibition astonished all beholders, are those made in

the palace of the Governor of Kermansha in Kurdistan, and are only disposed of in presents.

The India Museum collection of carpets cannot of course be regarded as an ordinary commercial collection; the examples exhibited having been expressly selected to illustrate the productions of localities where the manufacture is an inherited handicraft. Jail-made carpets have therefore been scrupulously excluded from the collection. Those shewn are chiefly from Cashmere, Baluchistan, Afghanistan, the Nizam's Dominion, and the Malabar and Coromandel coasts, a few examples being added of Khiva, Bokhara, Yarkand, and Persian rugs and carpets to illustrate the influence of the art of Turkestan and Persia on the indigenous carpet manufacture of India. In all cases the patterns are typical of their respective localities of production, and as far as possible of modern manufacture, old carpets only being chosen where the local designs have been abandoned in order to meet the requirements of European exporters. A very slight inspection of the whole collection is sufficient to shew how well founded are the complaints respecting the great falling off in every quality both in design and manufacture in Indian carpets since the Great Exhibition of 1851.

As a striking illustration of the corruption of native designs under European influences it is only necessary to compare the two old *Cashmere* carpets lent to the India Museum by Mr. Vincent Robinson with the large Cashmere *darbar* carpet exhibited by him at Paris in 1878. These two carpets were probably made early in the last century. The ground in one is pale yellow and in the other rose of varying shades, and the floral pattern decorating it is in half tones of a variety of colors. The borders are weak, as in all Cashmere carpets, not being sufficiently distinguished from the centre, but the coloring and general effect are so serene and pleasing that this does not really appear as a defect.

The *Cashmere* *darbar* carpet exhibited at Paris was a typical illustration of the modern manufacture of Srinagar. The large

scroll laid about its borders in such agonised contortions had evidently been copied from the shawl patterns introduced by the French houses into Cashmere about ten years ago. The wool of these modern Srinagar carpets is good, and the texture of the carpets themselves is not bad, but it is hardly possible that they can ever again be made to satisfy a critical taste. The colours introduced are not suited for the floor of a room, particularly the green, even if they were harmoniously blended. The floor of a furnished room, in which the great need is to see the furniture distinctly, can scarcely be too grave in tone, and it is evident that the Cashmere dyes are fitted only for shawls, and *portières*, and tapestries for walls, where it is a pleasure to the eye to be attracted by lively coloring.

One of the *Afghanistan* [No 18,389] carpets lent by Mr. Vincent Robinson is probably really of Herat manufacture. It is a rare example of the antique Persian style in carpets. The Central ground is of glowing crimson [Kermes red], as brilliant as when first woven, and is covered with large tulips in shades of blue, green, and yellow. The ground of the broad border is of shades of fine green covered with a rich tracery of leaves and various colored flowers, with birds among them of gorgeous plumage, gold and blue. The introduction of the characteristic cloud pattern among the conventional tulips is of peculiar interest, as indicative of the Tartar influences so clearly marked in Persian pottery of the sixteenth century, to which period this remarkable carpet probably belongs.

The *Sindh* carpets are the cheapest, coarsest, and least durable of all that are made in India. Formerly they were fine in design and coloring, but of late years they have greatly deteriorated. The cheap rugs, which sell for about 9s. each, are made with the pile (if not altogether) of cowhair, woven upon a common cotton foundation, with a rough hempen shoot. The patterns are bold and suited to the material, and the dyes good and harmonious.

The *Baluchistan* carpets and rugs are made of goatshair, which gives them their singularly beautiful lustre, finer even than that of the Indian silk carpets, and more subdued in tone, although the dyes used in Baluchistan are richer. The patterns are usually of the fantastic geometrical character found in Turcoman rugs, from which the patterns of the early "Brussels carpets" were derived. They are laid on either a deep indigo or deep madder red ground, and traced out in orange, brown and ivory white, intermixed with red, when the ground is blue, and with blue, when the ground is red. The ends terminate in a web-like prolongation of the warp and woof beyond the pile; and when striped in colours or worked in a small diaper form a most picturesque fringe.

The famous *Jubbulpur* carpets have deteriorated in quality and art in the most extraordinary manner since the establishment of the School of Industry at that station, the influence of which has been equally prejudicial with that of the jails. The foundation, as now scamped, is quite insufficient to carry the heavy pile which is a feature of this make; and is moreover so short in the staple as to be incapable of bearing the tension even of the process of manufacture. Jubbulpur carpets often reach this country which will not bear sweeping, or even unpacking. I know of two which were shaken to pieces in the attempt to shake the dust out of them when first unpacked. The designs once had some local character, but have lost it during the last four or five years.

In *Mirzapur* carpets we again find the evidence of the indiscriminate cheapening effects of the jail system. In the Paris Exhibition of 1867, Mirzapur carpets were still shewn of fine texture, and good coloring, and serviceable wear; the designs too were suited to the coarse wool used in that district. But, in the carpets now sold, the materials are not so well chosen, the texture is coarser, and the colours are crude; and it is within proof to state that a Mirzapur carpet as now made, and sold in

Europe at about 18s. the square yard, is one of the least economical carpets which people of moderate means could lay down on their floors. The staple is so short, and the texture so loose, that it will not bear the wear and tear of a middle-class English household ; and common sense is of course the backbone of good taste in furnishing. Three years will wear out any Mirzapore carpet now made. Those made ten years ago will still be in use twenty years hence, and full of dignity to the end. But as they cost twice the money, there's the rub, fatal to the once great manufacture of this district.

Hyderabad carpets have also felt the influence of the jails. In the Exhibition of 1851, the very finest rugs exhibited were from Warangal, about eighty miles east of Hyderabad. The peculiarity of these rugs, of which several remain in the India Museum, was the exceedingly fine count of the stiches, about 12,000 to the square foot. They were also perfectly harmonious in coloring, and the only examples in which silk was ever used in carpets with a perfectly satisfactory effect. The brilliancy of the colors was kept in subjection by their judicious distribution and the extreme closeness of the weaving, which is always necessary when the texture is of silk. All this involves, naturally, great comparative expense, not less than 10*l.* per square yard ; and it is not surprising, therefore, that in the competition with the Thug carpets of the jails, the stately fabrics of Warangal, the ancient capital of the Andhra dynasty of the Deccan, and of the later Rajas of Telingana, have died out, past every effort to revive them. Surely the Government which has spent so much money in introducing South Kensington Schools of Art into India, might make an annual grant for the purchase of the masterpieces of Indian local manufacturers, which they should present to any native prince or gentleman to whom they wished to shew great honour. A few thousand pounds spent in this way every year would have a most beneficial effect in sustaining many local traditional arts in India now nearly dying out, even of the very recollections of men.

There is a Warangal carpet among the Prince of Wales' presents, but it is not at all of the old manufacture. The colors are too strong, the indigo very much too strong for the surrounding tones of grey, green, and yellow ; and the large leaf pattern stares obtrusively from the crude madder red ground. In addition to the Warangal carpets belonging to the Indian Museum, Mr. V. Robinson also exhibits one [No. 17,407] of sixteenth or early seventeenth century manufacture.

The carpets of *Masulipatam* were formerly among the finest produced in India, but of late years have also been corrupted by the European, chiefly English, demand for them. The English importers insisted on supplying the weavers with cheaper materials, and we now find that these carpets are invariably backed with English twine. The spell of the tradition thus broken, one innovation after another was introduced into the manufacture. The designs which of old were full of beautiful detail, and more varied than now in range of scheme and coloring, were surrounded by a delicate outline suggested as to tint by a harmonising contrast with the colours with which it was in contact. But the necessity for cheap and speedily executed carpets for the English market has led to the abandonment of this essential detail in all Indian textile ornamentation. Crude inharmonious masses of unmeaning form now mark the spots where formerly varied, interesting, and beautiful designs blossomed as delicately as the first flowers of spring : and these once glorious carpets of Masulipatam have sunk to a mockery and travestie of their former selves.

The carpets of *Malabar* would seem to be the only pile woollen carpets made in India, of pure Hindu design, and free at present from European as from Saracenic influences. They are made of a coarse kind of wool peculiar to the locality, and are distinguished by their large grandly colored patterns. The texture of the wool is exactly suited to the designs used, which are gay in tone, colossal in proportion, and wonderfully balanced in harmonious arrangement. No other manufacture of carpets

known could hold a pattern together with such a scheme of coloring, and scale of design. The simplicity and felicity shewn in putting the right amount of colour, and exact force of pattern, suited to the position given them, are wonderful, and quite unapproachable in any European carpets of any time or country. They satisfy the feeling for breadth and space in furnishing, as if made for the palaces of kings. Mr. Vincent Robinson has lent the Museum a Malabar carpet of silk [No. 21,975]. Its characteristic design is worked on a ground of red. The striking peculiarity of these silk carpets is the effects of the play of light and shade seen when walking across them like that of summer clouds passing over a field.

These are not the only fine carpets still made in India. Those which are known in the London market by the name of *Coconada*, the place of their shipment on the Coromandel Coast to Madras, prove that carpets of uncontaminated native designs and integrity of quality are still made by the caste weavers of India, but of varieties not yet generally recognised by huckstering European dealers, and obtained from villages far away from English stations and railway lines. They are equal to anything ever produced in the Dakhan. The colors are now perhaps a little more brilliant than was observable in the memorable examples from the same district shewn in the Exhibition of 1851, now in the India Museum; but this brilliance is really due rather to want of age, for the details have, in a high degree, all the varied play of color, and charm of pattern of the older carpets, and time only is required to mellow them to perfection. Two of these *Coconada* or *Madras* rugs [Nos. 14,205 and 14,430] have been lent to the Museum by Mr. Vincent Robinson; No. 14,430 is of a very distinctive pattern, and perhaps the most beautiful known in this denomination of Indian carpets. Their weavers are Mahommedan descendants of Persian settlers.

The Indian Museum possess the most superb *Khorassan* and *Kirman* carpets I have ever seen; and Mr. Vincent Robinson's

loans of carpets from *Bokhara* [No. 23,092], *Yarkand* and other places, are of the highest interest. But I can only notice in detail an antique goat's hair carpet from *Khiva* [No. 17,409]. The ground is of madder red, decorated with leaves and scrolls, and lozenge-shaped forms in red, white, and orange, each lozenge being defined by a deep line of indigo blue. The ends terminate in a fringe. Professor Vambery states that these rich lustrous carpets are made entirely by the nomad women about *Khiva*, the head worker tracing out the design in the desert sand, and handing out to her companions the dyed materials of different colours as required in the progress of weaving.

The large Hamadan carpet formerly hung in the India Museum, but which has since been removed by its owner, is absolutely unique in character and style; and I must at least preserve a reference to it here. An irregular lozenge form, a little island of bright clustering flowers, of which the prevailing colours are red and blue, adorns the centre, while the wide extended ground of yellow, in irregular shades, surrounds it with a rippling amber sea: and there are blue pieces in the corners, within the broad blue border worked in arabesques. It is a carpet not to be laid on a floor, but to be hung in a gallery, to be looked at like a golden sunset. It was a sacrilege to remove it from the mosque where it evidently was once spread under the great dome. *Beati possidentes.*

Felts, called *nammads* or *namdahs*, are largely imported into India from Khotan by way of Leh. The felts of Tabriz, are beautifully ornamented with colored wools felted into them in regular arabesque designs. The manufacture of felt is a specialty of the town of Jarwal in the Bahraich district of Oudh. It is largely made in the Bellary district of Madras. The wool is spread out evenly on a *kambli* or sackcloth, and then it is moistened with gum and rolled backwards and forwards with a sort of rolling-pin until the layer of wool is all properly interlaced or felted. Dyed wools can in the same way be worked into the

fabric in decorative patterns of apparently the most complicated character.

Mats, called *chatai*, are made all over India. The mats of Palghat on the Malabar coast are remarkable for their strength, and those of Midnapur, in the Bardwan division of Bengal, are admired wherever they are seen for their fineness and the classical design of the mosaic-like patterns of stained grass. What are called *sita palti* mats are made at Mymensing, Bakergunj and Sahabgunj, in the Dacca division of Bengal. At Purneah in the Bhagulpur, mats are made of *muthi* grass; and *dorma* mats are named as made in Nuddea, the Presidency division of Bengal. Sylhet is noted for its ivory mats.

Apart from the natural beauty of the dyes used, and the knowledge, taste, and skill of the natives of India in the harmonious arrangement of colors, the charm of their textile fabrics lies in the simplicity and treatment of the decorative details. The knop and flower pattern appears universally, but infinitely modified, never being seen twice under the same form: and the *seventi* and lotus, which have been reduced, through extreme conventionalisation to one pattern. Besides, we have the shoe flower, and parrots [Plate 68], and peacocks, and lions and tigers, and men on horseback, or on foot, hunting or fighting. These objects are always represented quite flat as in mosaic work, or in *draps entaillez*, and generally symmetrically and in alternation. The symmetrical representation of natural objects in ornamentation and their alternation seems through long habit to have become intuitive in the natives of the East. If you get them to copy a plant, they will peg it down flat on the ground, laying its leaves and buds and flowers out symmetrically on either side of the central stem, and then only will they begin to copy it. If the leaves and flowers of the plant are not naturally opposite, but alternate, they will add others to make it symmetrical, or at least will make it appear so in the drawing. The intuitive feeling for alternation is seen in their gardens and heard in their music, and is as satisfactory in

their music as in their decoration, when heard amid the associations which naturally call it forth. When the same form is used all over a fabric, the interchange of light and shade and the effect of alternation, are at once obtained by working the ornament alternately in two tints of the same colour. Each object or division of an object is painted in its own proper color, but without shades of the color, or light and shade of any kind, so that the ornamentation looks perfectly flat, and laid like a *mosaic* in its ground. It is in this way that the natural surface of any object decorated is maintained in its integrity. This, added to the perfect harmony and distribution of the coloring, is the specific charm of Indian and Oriental decoration generally. Nothing can be more ignorant and ridiculous than the English and French methods of representing huge nosegays, or bunches of fern leaves tied together by flowing pink ribbons, in light and shade, on carpets, with the effect of full relief. One knows not where to walk among them. Continually also are to be seen perfectly shaped vases spoiled by the appearance of flowers in full relief stuck round them, or of birds flying out from them. Such egregious mistakes are never made by the Indian decorative artist. Each ornament, particularly on fabrics, is generally traced round also with a line, in a colour which harmonises it with the ground on which it is laid. In embroideries with variegated silks, for instance, on cloth or satin or velvet, a gold or silver thread is run round the outline of the pattern, defining it and giving a uniform tone to the whole surface of the texture. Gold is generally laid on purple, or in the lighter *kincobs* on pink or red. An ornament on a gold ground is generally worked round with a dark thread to soften the glister of the gold. In carpets, however gay in color, a low tone is secured by a general black outline of the details. All violent contrasts are avoided. The richest colors are used, but are so arranged as to produce the effect of a neutral bloom, which tones down every detail almost to the softness and transparency of atmosphere. The gold-broidered

snuff-colored Cashmere shawl in the collection of the Prince of Wales presents this ethereal appearance. Light materials are lightly colored and ornamented, heavier more richly, and, in the case of apparel, both the coloring and the ornaments are adapted to the effect which the fabric will produce when worn and in motion. It is only through generations of patient practice that men attain to the mystery of such subtleties. It is difficult to analyse the secret of the harmonious bloom of Indian textures, even with the aid of Chevreul's prismatic scale. When large ornaments are used, they are filled up with the most exquisite details, as in the cone patterns on Cashmere shawls. The vice of Indian decoration is its tendency to run riot, as in Indian arms, but Indian textile fabrics, at least, are singularly free from it, and particularly the carpets. They are threatened, as has been shewn, by quite another danger.

POTTERY.

TRUEST to nature, in the directness and simplicity of its forms, and their adaptation to use, and purest in art, of all its homely and sumptuary handicrafts is the pottery of India; the unglazed rude earthenware, red, brown, yellow, or grey, made in every village, and the historical glazed earthenware of Madura, Sindh, and the Panjab.

Unglazed pottery is made everywhere in India, and has been from before the time of Manu: and the forms of it shewn on ancient Buddhist and Hindu sculptures, and the ancient Buddhist paintings of Ajanta, are identical with those still everywhere thrown from the village handwheels. In the sculptures of Bhuvaneshwar the form of the *kalasa*, or water jug, is treated with great taste as an architectural decoration, especially in its use as an elegant finial to the temple towers. In the same sculptures is seen the form of another water vessel, identical with the *amriti*, or "nectar" bottle sold in the bazaars of Bengal.

It is impossible to attempt any enumeration of the places where unglazed pottery is made, for its manufacture is literally universal, and extended over the whole, and to every part of India. Mr. Baden Powell, however, cites the following places in the Panjab as worthy of mention for their unglazed earthenware: Amritsar, Cashmere, Dera Ghazi Khan, Dera Ismail Khan, Gugranwalla, Hazara, Hushiarpur, Jhelam, Kangra, Kohat, Lahore, Ludhiana, Montgomery, Rawulpindi, and Shahpur. In Bengal the village pottery of Sawan in Patna, of Bardwan, of Ferozepur in Dacca, and Dinajpur in Rajshahye are noted. In

Bombay that of Ahmedabad in Gujarat, and of Khanpur in the collectorate of Belgaum.

The principal varieties of Indian fancy pottery made purposely for exportation are the red earthenware pottery of Travancore and Hyderabad in the Deccan, the red glazed pottery of Dinapur, the black and silvery pottery of Azimghar in the North-Western Provinces, and Surujgurrah in Bengal [Bhagalpur], and imitation *bidri* of Patna and Surat in Gujarat, the painted pottery of Kota in Rajputana, the gilt pottery of Amroha also in Rajputana, the glazed and unglazed pierced pottery of Madura, and the glazed pottery of Sindh and the Panjab. In all these varieties of Indian pottery an artistic effect is consciously sought to be produced.

The Azimghar pottery, like most of the art-work of the Benares district, and eastward, is generally feeble and rickety in form, and insipid and meretricious in decoration, defects to which its fine black colour, obtained by baking it with mustard oilseed cake, gives the greater prominence. The only tolerable example of it I have ever seen is the water-jug in the India Museum, which attracts, and in a way pleases, because of the strangeness of look given to it by the pair of horn-like handles. The silvery ornamentation is done by etching the pattern, after baking on the surface, and rubbing an amalgam of mercury and tin into it; thus producing the characteristic mawkish and forbidding effect, which, however, the unsophisticated potter of Azimghar does not attempt to mystify by calling it by any of those artful, advertising "cries" wherewith so much ado about nothing is sometimes made in English high art galleries. Very different is the glazed pottery of Sindh and the Panjab. The charms of this pottery are the simplicity of its shapes, the spontaneity, directness, and propriety of its ornamentation, and the beauty of its coloring. The first thing to be desired in pottery is beauty of form, that perfect symmetry and purity of form which is

"When unadorn'd, adorn'd the most."

When we get it, we desire nothing more for the satisfaction of the eye. But for household use pottery must generally be glazed, and neither glazing nor coloring need detract from its dignity or comeliness, while they often enhance the delicacy of surface necessary for the complete exposition of gracefulness of configuration. If any ornamentation is applied, it must be skilfully subordinated to the form to which it is superadded, so as not in any way to divert attention from it. Nothing can be in worse taste, nor, in an æsthetic sense, more wasteful, than to hide a lovely form under an excess of foreign ornament. It is really no less so to obscure it by producing the effect of birds and flowers floating about it, as is unintentionally done in so much English pottery, painted in perspective and with shadow; or by wilfully producing the illusion of a form dissimilar to the real form ornamented, as in Japanese pottery, in which the attempt is often deliberately made to distract the eye by the most violent optical surprises and deceptions. On the other hand, in the best Indian pottery, we always find the reverent subjection of color and ornamentation to form, and it is in attaining this result that the Indian potter has shewn the true artistic feeling and skill of all Indian workmasters in his handiwork. The correlation of his forms, colors, and details of ornamentation is perfect, and without seeming premeditation, as if his work were rather a creation of nature than of art; and this is recognised, even in the most homely objects, as the highest achievement of artifice. The great secret of his mastery is the almost intuitive habit of the natives of India of representing natural objects in decoration in a strictly conventional manner; that is to say, symmetrically, and without shadow. In this way the outline of the form ornamented is never broken. The decoration is kept in subordination to the form also by the monotonous repetition of the design applied to it, or by the simple alteration of two or, at the most, three designs. Also, never more than two or three colors are used, and when three colors are used, as a rule, two of them are

merely lighter and darker shades of the same color. It is thus that the Indian potter maintains inviolate the integrity of form and harmony of coloring, and the perfect unity of purpose and homogeneity of effect of all his work. The mystery of his consummate work is a dead tradition now: he understands only the application of its process; but not the less must it have been inspired in its origin by the subtlest interpretation of nature. The potter's art is of the highest antiquity in India, and the unglazed water vessels, made in every Hindu village, are still thrown from the wheel in the same antique forms represented on the ancient Buddhistic sculptures and paintings. Some of this primitive pottery is identical in character with the painted vases found in the tombs of Etruria, dating from about B.C. 1000. I do not suggest any connexion between them; it is only interesting to find that pottery is still made all over India, for daily use, which is in reality older than the oldest remains we possess of the ceramic art of ancient Greece and Italy. None of the fancy pottery made in India is equal in beauty of form to this primitive village pottery; and most of it is utterly insignificant and worthless. The only exception is the glazed pottery of Madura, and of Sindh and the Panjab, which alone of the fancy varieties can be classed as art pottery, and as such is of the highest excellence.

The Madura pottery [Plate 76] is in the form generally of water bottles, with a globular bowl and long upright neck; the bowl being generally pierced so as to circulate the air round an inner porous bowl. The outer bowl and neck are rudely fretted all over by notches in the clay, and are glazed either dark green or a rich golden brown.

The glazed pottery of Sindh [Plates 70-75] is made principally at Hala, Hyderabad, Tatta, and Jerruck, and that of the Panjab at Lahore, Multan, Jang, Delhi, and elsewhere.¹ The chief places

¹ The master potters known to me by name are Jumū, son of Osman the Potter, Karachi; Mahommed Azim, the Pathian, Karachi; Messrs. Nur,



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for the manufacture of encaustic tiles are at Bulri and Saidpur in Sindh. It is said that the invasion and conquest of China by Chingiz Khan, 1212, was the event that made known to the rest of Asia and Europe the art of glazing earthenware; but, in fact, the Saracens from the first used glazed tiles for covering walls, and roofs, and pavements, and of course with a view to decorative effect. The use of these tiles had come down to them in an unbroken tradition from the times of the "Temple of Seven Spheres," or Birs-i-Nimrud, at Borsippa, near Babylon, of the temple of Sakkara in Egypt, and of the early trade between China and Egypt, and China and Oman, and the valley of the Tigris and Euphrates. Diodorus, describing [after Ctesias] the circular wall of the royal palace at Babylon, says: "The whole portrayed a royal hunting scene, beautified with divers colored forms of men and beasts, baked in the clay, and much like unto nature There was Simiramis, killing a tiger, and by her side her husband Ninus, piercing his spear through a lion." Glazed tiles had, however, fallen into comparative disuse before the rise of the Saracens, and it was undoubtedly the conquests of Chingiz Khan, A.D. 1206-1227, which extended their general use throughout the nations of Islam. The glazed pottery of the Panjab and Sindh probably dates from this period, and, as we shall presently see, was directly influenced by the traditions surviving in Persia of the ancient civilisations of Nineveh and Babylon. It is found in the shape of drinking cups, and water bottles [cf. pot and Latin *poto*, I drink], jars, bowls, plates, and dishes of all shapes and sizes, and of tiles, pinnacles for the tops of domes, pierced windows, and other architectural accessories. In form, the bowls, and jars, and vases may be classified as egg-shaped, turband, melon, and onion-shaped, in the latter the point rising and widening out gracefully into the neck of the vase. They are

Mahommed, and Kadmil, Hyderabad; Ruttu Wuleed Minghu, Hyderabad; and Peranu, son of Jumu, Tatta. Mr. Kipling sends me the name of Mahommed Hashim at Multan.

glazed in turquoise, of the most perfect transparency, or in a rich dark purple, or dark green, or golden brown. Sometimes they are diapered all over by the *pâte-sur-pâte* method, with a conventional flower, the *seventi*, or lotus, of a lighter color than the ground. Generally they are ornamented with the universal knop and flower pattern, in compartments formed all round the bowl, by spaces alternately left uncolored and glazed in color. Sometimes a wreath of the knop and flower pattern is simply painted round the bowl on a white ground [Plate 72].

Mr. Drury Fortnum, in his report on the pottery at the International Exhibition of 1871, observes of the Sindh pottery: "The turquoise blue painted on a paste beneath a glaze, which might have been unearthed in Egypt or Phœnicia—a small bottle painted in blue or white—is of the same blood and bone as the ancient wares of Thebes But the tiles are very important. . . . They are in general character similar to, although not so carefully made as, the Oriental tiles known as Persian, which adorn the old mosques of Egypt, Syria, Turkey, and Persia The colours used upon them are rich copper green, a golden brown, and dark and turquoise blue The antiquary, the artist, and the manufacturer will do well to study these wares. As in their silk and woollen fabrics, their metal work and other manufactures, an inherent feeling for and a power of producing harmony in the distribution of color and in surface decoration exists among the Orientals, which we should study to imitate, if not to copy. It is not for Europeans to establish schools of art, in a country the productions of whose remote districts are a school of art in themselves, far more capable of teaching than of being taught."

It is a rare pleasure to the eye to see in the polished corner of a native room one of these large turquoise blue sweetmeat jars on a fine Kirman rug of minium red ground, splashed with dark blue and yellow. But the sight of wonder is, when travelling over the plains of Persia or India, suddenly to come upon



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an encaustic-tiled mosque. It is colored all over in yellow, green, blue, and other hues; and as a distant view of it is caught at sunrise, its stately domes and glittering minarets seem made of purest gold, like glass, enamelled in azure and green, a fairy-like apparition of inexpressible grace and the most enchanting splendor.

In giving the following receipts of the different preparations used in enamelling Sindh and Panjab pottery, it is as well to say that they are of little practical value out of those countries. It will be noted that a great deal is thought, by the native manufacturers, to depend on the particular wood, or other fuel used, in the baking, which, if it really influences the result, makes all attempts at imitating local varieties of Indian pottery futile.

In the glazing and coloring two preparations are of essential importance, namely *kanch*, literally glass, and *sikka*, oxides of lead. In the Panjab the two kinds of *kanch* used are distinguished as *Angrezi kanchi*, "English glaze," and *desi-kanchi*, "country glaze."

Angrezi kanchi is made of *sang-i-safed*, a white quartzose rock, 25 parts; *sajji*, or pure soda, 6 parts; *sohaga telia*, or pure borax, 3 parts; and *nausadar* or sal ammoniac, 1 part. Each ingredient is finely powdered and sifted, mixed with a little water, and made up into white balls of the size of an orange. These are reheated, and after cooling again, ground down and sifted. Then the material is put into a furnace until it melts, when clean-picked *shora kalmi*, or saltpetre, is stirred in. A foam appears on the surface, which is skimmed off and set aside for use. The *desi-kanchi* is similarly made, of quartzose rock and soda, or quartzose rock and borax, or siliceous sand and soda. A point is made of firing the furnace in which the *kanch* is melted with *kikar*, *karir* or *Capparis* wood.

Four *sikka*, or oxides of lead, are known, namely, *sikka safed*, white oxide, the basis of most of the blues, greens, and greys

used ; *sikka zard*, the basis of the yellows ; *sikka sharbati*, litharge ; and *sikka lal*, red oxide.

Sikka safed is made by reducing the lead with half its weight of tin ; *sikka zard* by reducing the lead with a quarter of its weight of tin ; *sikka sharbati* by reducing with zinc instead of tin ; and *sikka lal* in the same way, oxidising the lead until red. The furnace is always heated in preparing these oxides with *jhand*, or *Prosopis* wood. The white glaze is made with one part of *kanch* and one part *sikka safed* [white oxide] well ground, sifted, and mixed, put into the *kanch* furnace, and stirred with a ladle. When melted, borax in the proportion of two *chittaks* to the *ser* [$1 \text{ chittak} = \frac{1}{16} \text{ ser}$; $1 \text{ ser} = 2\frac{2}{3} \text{ lbs. avoirdupois}$] is added. If the mixture blackens, a small quantity of *shora kalmi*, or saltpetre, is thrown in. When all is ready, the mixture is thrown into cold water, which splits it into splinters, which are collected and kept for use. All the blues are prepared by mixing either copper or manganese, or cobalt, in various proportions with the above white glaze. The glaze and coloring matter are ground together to an impalpable powder ready for application to the vessel.

The following are the blue colors used :—

1. *Firoza*, turquoise blue 1 ser of glaze, and 1 chittak of *chhiltamba*, or calcined copper.
2. *Firozi-abi*, pale turquoise 1 ser of glaze, and $\frac{1}{21}$ th of calcined copper.
3. *Nila*, indigo blue 1 ser of glaze, and 4 chittaks of *reta*, or zaffre (cobalt).
4. *Asmani*, sky blue 1 ser of glaze, and $1\frac{1}{2}$ chittak of zaffre.
5. *Halka-abi*, pale sky blue 1 ser of glaze, and 1 chittak of zaffre.
6. *Kasni*, pink or lilac 1 ser of glaze, and 1 chittak of *anjani*, or oxide of manganese.
7. *Sosni*, violet 1 ser of glaze, and $1\frac{1}{2}$ chittak of mixed manganese and zaffre.
8. *Uda*, purple or puce 1 ser of glaze, and 2 chittak of manganese.
9. *Khaki*, grey 1 ser of glaze, and $1\frac{1}{2}$ chittak of mixed manganese and zaffre.



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The *rita* or zaffre is the black oxide of cobalt found all over Central and Southern India, which has been roasted and powdered, mixed with a little powdered flint. Another mode of preparing the *nila*, or indigo blue glaze, for use by itself, is to take :

| | |
|----------------------------|----------|
| Powdered flint | 4 parts. |
| Borax.. | 24 „ |
| Red oxide of lead | 12 „ |
| White quartzose rock | 7 „ |
| Soda | 5 „ |
| Zinc | 5 „ |
| Zaffre..... | 5 „ |

All are burnt together in the *kanch* furnace as before described.

The yellow glaze used as the basis of the greens is made of *sikka zard*, white oxide 1 ser, and *sang safed*, a white quartzose rock, or millstone, or burnt and powdered flint, 4 chittaks, to which, when fused, 1 chittak of borax is added.

The green colors produced are :—

1. *Zamrudī*, deep green..... 1 ser of glaze, and 3 chittaks of *chhil tamba*, or calcined copper.
2. *Sabz*, full green 1 ser of glaze, and 1 chittak of copper.
3. *Pistaki*, or Pistachio (bright) green 1 ser of glaze, and 1½ chittak of copper.
4. *Dhani*, or Paddy (young shoots of rice), green 1 ser of glaze, and 1½th chittak of copper.

Another green is produced by burning one ser of copper filings with *nimak shor*, or sulphate of soda.

The colors, after being reduced to powder, are painted on with gum, or gluten. The vessel to receive them is first carefully smoothed over and cleaned, and, as the pottery clay is red when burnt, it is next painted all over with a soapy, whitish engobe—prepared with white clay and borax and Acacia and Conocarpus gums—called *kharya mutti*. The powdered colors are

ground up with a mixture or *nishasta*, or gluten and water, called *mawa* until the proper consistence is obtained, when they are painted on with a brush. The vessels are then carefully dried and baked in a furnace heated with *ber*, or *Zizyphus*, or, in some cases, *Capparis* wood. The ornamental designs are either painted on off-hand, or a pattern is pricked out on paper, which is laid on the vessel and dusted with the powdered color along the prickings, thus giving a dotted outline of the design, which enables the potter to paint it in with all the greater freedom and dash. It is the vigorous drawing, and free, impulsive painting of this pottery which are among its attractions. The rapidity and accuracy of the whole operation is a constant temptation to the inexperienced bystander to try a hand at it himself. You feel the same temptation in looking on at any native artificer at his work. His artifice appears to be so easy, and his tools are so simple, that you think you could do all he is doing quite as well yourself. You sit down and try. You fail, but will not be beaten, and practise at it for days with all your English energy, and then at last comprehend that the patient Hindu handicraftsman's dexterity is a second nature, developed from father to son, working for generations at the same processes and manipulations. The great skill of the Indian village potter may be judged also from the size of the vessels he sometimes throws from his wheel, and afterwards succeeds in baking. At Ahmedabad and Baroda, and throughout the fertile pulse and cereal-growing plains of Gujarat, earthen jars, for storing grain, are baked, often five feet high; and on the banks of the Dol Samudra, in the Dacca division of the Bengal Presidency, immense earthen jars are made of nearly a ton in cubic capacity.

The Indian potter's wheel is of the simplest and rudest kind. It is a horizontal fly-wheel, two or three feet in diameter, loaded heavily with clay around the rim, and put in motion by the hand; and once set spinning, it revolves for five or seven minutes with a perfectly steady and true motion. The clay to be moulded is

heaped on the centre of the wheel, and the potter squats down on the ground before it. A few vigorous turns and away spins the wheel, round and round, and still and silent as a "sleeping" top, while at once the shapeless heap of clay begins to grow under the potter's hand into all sorts of faultless forms of archaic fictile art, which are carried off to be dried and baked as fast as they are thrown from the wheel. Any polishing is done by rubbing the baked jars and pots with a pebble. There is an immense demand for these water-jars, cooking-pots, and earthen frying-pans and dishes. The Hindus have a religious prejudice against using an earthen vessel twice, and generally it is broken after the first pollution, and hence the demand for common earthenware in all Hindu families. There is an immense demand also for painted clay idols, which also are thrown away every day after being worshipped; and thus the potter, in virtue of his calling, is an hereditary officer in every Indian village. In the Dakhan, the potter's field is just outside the village. Near the wheel is a heap of clay, and before it rise two or three stacks of pots and pans, while the verandah of his hut is filled with the smaller wares and painted images of the gods and epic heroes of the Rayamana and Mahabharata. He has to supply the entire village community with pitchers and cooking pans, and jars for storing grain and spices and salt, and to furnish travellers with any of these vessels they may require. Also, when the new corn begins to sprout, he has to take a water-jar to each field for the use of those engaged in watching the crop. But he is allowed to make bricks and tiles also, and for these he is paid, exclusively of his fees, which amount to between 4*l.* and 5*l.* a year. Altogether he earns between 10*l.* and 12*l.* a year, and is passing rich with it. He enjoys, beside, the dignity of certain ceremonial and honorific offices. He bangs the big drum, and chants the hymns in honour of *Jami*, an incarnation of the great goddess *Bhavanī*, at marriages; and at the *dowra*, or village harvest home festivals, he prepares the *barbat*

or mutton stew. He is, in truth, one of the most useful and respected members of the community, and in the happy religious organisation of Hindu village life there is no man happier than the hereditary potter, or *kumbar*.

We cannot overlook this serenity and dignity of his life if we would rightly understand the Indian handicraftsman's work. He knows nothing of the desperate struggle for existence which oppresses the life and crushes the very soul out of the English working man. He has his assured place, inherited from father to son for a hundred generations, in the national church and state organisation; while nature provides him with everything to his hand, but the little food and less clothing he needs, and the simple tools of the trade. The English working man must provide for house rent, coals, furniture, warm clothing, animal food, and spirits, and for the education of his children before he can give a mind free from family anxieties to his work. But the sun is the Indian workman's co-operative landlord, coal merchant, upholsterer, tailor, publican, and butcher; the head partner, from whom he gets almost everything he wants, and free of all cost but his labor contribution towards the trades union village corporation of which he is an indispensable and essential member. This at once relieves him from an incalculable dead weight of cares, and enables him to give to his work, which is also a religious function, that contentment of mind and leisure, and pride and pleasure in it for its own sake, which are essential to all artistic excellence.

The cause of all his comfort, of his hereditary skill, and of the religious constitution under which his marvellous craftsmanship has been perfected is the system of landed tenure which has prevailed in India, and stereotyped the social condition and civilisation of the country from the time of the Code of Manu. The Indian *ryotwari* tenure, or system of peasant proprietorship, is first and most simply described in the Bible, in chapter xlvii of Genesis. In the seven years of plenty in Egypt, Joseph



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gathered the fifth part of all the grain grown in those plenteous years, and laid it up in the cities; and when the famine came, in the first year he gathered into Pharaoh's treasury all the money in the land of Egypt and in the land of Canaan for the corn which he sold to the starving people, and when their money failed, all their cattle; and in the second year, when their money was spent, and their herds gone, he took from them all their lands, and even bought themselves into slavery, and fed them with bread for their land and the service of their bodies for that year. Thus the whole land of Egypt became the property of king Pharaoh, and all the gold and silver of the people beside, and when only their bodies were left before him, they were sold in bondage to the king. And having swept away the ancient freehold proprietors of Egypt, Joseph made a new distribution of the land among the husbandmen, requiring them to pay in return one-fifth part of their crops as rent or tax into the king's treasury. This is the regular *ryotwari* tenure, with a very moderate assessment; for whereas in most Asiatic countries the assessment generally amounts to one-half the crop, Joseph exacted only one-fifth; and it is not surprising, therefore, to find that the children of Israel, who dwelt in the land of Goshen, and had in possession the best of the land therein, prospered and multiplied exceedingly. The temple endowments, the lands of the priests, Joseph did not touch. This is a peculiarly interesting chapter for Anglo-Indians. In the end, only the legends of human pathos survive in history, and Joseph is popularly known chiefly in connexion with the story of his evil treatment by his brethren, and his touching requital of tenfold goodness into their bosoms. He was really the astute and farsighted author of one of the greatest and most successful agrarian revolutions on record, beside which the revenue reforms of Todar Mal, under Akbar, and the "Cornwallis [Permanent] Settlement" of 1793, and the revenue survey of the North-Western Provinces, by Robert Bird, in 1824, shrink into insignificance. The system of peasant proprietorship may possibly contribute indirectly to

retard the advancement of a country, even where it does not conduce directly to the petrification of its civilisation, as in India. Under it the Hindu ryot has become so strongly attached, by the most sacred and deeply rooted ties, to the soil that, rather than relinquish his hold on it, he will burden himself and his heirs with debt for generations; and gradually, under the Hindu practice of inheritance, the holdings become so minutely subdivided, and overburdened by mortgages, that extended cultivation and high farming are made almost impossible. Notwithstanding the superior education of the Scotch peasantry, and the livelong example of the benefits of high farming all around them, it is only in the last few years that the "portioners" of the Lothians and the Merse have learned to combine together to work their "common lands" by the steam plough. At this rate the village communities of the Dakhan may be expected to postpone the scientific cultivation of the limitless arable soil of India to the Greek Kalends. It is a notable fact that while machinery should have been so readily applied in India to the production of textile and other manufactures, in which its use is injurious, its introduction in agricultural operations, in which it would so incalculably benefit the people, has been found impossible. It is quite impossible under the land system of the country at present. I remember a steam plough being introduced with great *éclat* into the Bombay Presidency. It was led in procession into the field, wreathed in roses and all of us who went to see it were wreathed with roses, and sprinkled with *attar*. But it was found impossible, utterly, to make any use of it. It was introduced into a fixed crystallised sacro-economic system in which it had no place, unless as a new divinity, and a new divinity and an idol it was made. It was put away into the village temple, and there, after a time, its great steel share was bedaubed red, and worshipped as a god. As a mere question of accounts, there can be no doubt of the solvency of India; but, owing to the restricted and imperfect cultivation of its soil, it is incapable of supporting the great cost of good government in

modern times with the elasticity and buoyancy which would at once result from the proper development of its really inexhaustible agricultural resources. The country grows rich too slowly, and the demands of a scientific government increase on it too rapidly, and the reason of it undoubtedly consists in the Indian form of peasant proprietorship. Then again, under this system, as it has been elaborated in India, there is a great loss of personal and national energy. The whole community is provided for; every man in it has his ordered place and provision. There is no stimulus to individual exertion, and the mass of the people are only too well contented to go on for ever in the same old-fashioned conservative ways as their fathers from time immemorial before them. In England the law of primogeniture, while so hard on younger sons, by throwing them on their own resources, to provide for themselves in the free professions, and in commerce and the colonies, has had the most beneficial influence on the energy of the race, and the growth of the wealth and political liberties and power of the country during the last two hundred years. Primogeniture, also, has given England a highly cultivated and powerful governing class: and every parish in the country has its "King in Israel." All this may be conceded, and even the desirableness, in the last far-off result, of a change in the old order of village life in India, to something newer and more modern. It is only to be hoped that the inevitable revolution will be left alone to the tranquil operation of time, and of the economic causes by which the country is being gradually affected through its connexion with England.¹ Perhaps the first forward

¹ Virgil's maxim in the *Georgics* [ii 412] has become famous:

" Laudato ingentia rura,
Exiguum colito."

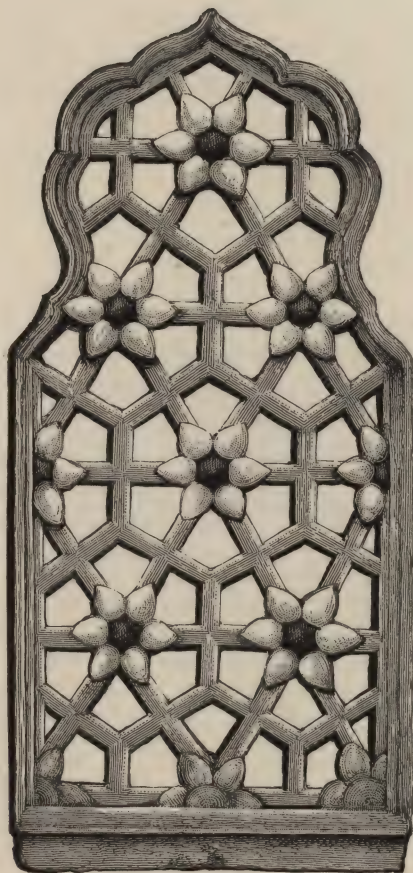
Pliny, who alludes to these lines with approval, ascribes, indeed, the ruin of Italy to large estates. While proprietors were restricted by law to small holdings, and themselves cultivated their own farms, there was an abundance of provisions without the importation of grain, and the Republic could always command the services of a bold peasantry, their country's pride. But in after

step in the new departure will be taken by the much abused village *soukar*, or banker. The *ryot*, the pet lamb fattened up for the revenue commissioner's knife, is protected by the paternal Government against all others having a claim on his fleece.¹ The Governments, when the property in the soil became engrossed by a few, and their overgrown estates were worked by slaves, Rome was forced to depend on other countries, both for food and to recruit her armies.—“Modum agri in primis servandum antiqui putavere. Quippe ita censebant, satius esse minus serere, et melius arare. Qua in sententia et Virgilium fuisse video. Verumque confitentibus latifundia perdidere Italiam : jam vero et provincias. Sex domini semissem Africæ possidebant, cum interfecit eos Nero princeps.”—Lib. xviii cap. vi. The whole of the third, fourth, fifth, and sixth chapters of this book are of remarkable interest to readers of Indian experience. Compare also Thirlwall's *Greece*, ii 34; Diodorus, i 79; and Plutarch's Solon and Cæsar. Greece and Italy wonderfully explain India, while a knowledge of India enables us to quicken the pages of Greek and Roman history with vivid life. At every turn in the Maratha country, in the hilly *marwals*, the wayfarer comes on the bed of some mountain stream tufted all along its banks, and all over the little green eyots amid its waste of pebbles, with mixed tamarisk and sweet-scented oleander, which carry the beholder back at once to the Ilissus and wooded slopes of Mount Hymettus. The lovely blushing oleanders are always found to shade some pure clear pool left by the river in its summer flood, at which the gentle maidens and comely matrons of the near village are filling their water jars, forming

“ . . . a group that's quite antique,
Draped lightly, loving, natural, and Greek ” ;

as in the painting, on the Rogers Vase, of the women of Athens filling their pitchers at the fair flowing fountains of Callirrhoe.

¹ The outcry against the village usurer is as ancient as the settlement of the land in the East. The fifth chapter of Nehemiah might be read as an extract from the Report of the Deccan Ryots Commission; and Nehemiah, in his paternal interposition between the Jewish cultivators and the Jewish usurers, is seen to have been actuated by exactly the same spirit as an Indian Civilian. Turning to the usurers, he addressed them : “ It is not good that ye do, . . . I likewise, and my brethren, and my servants [the Revenue Commissioner and Collectors and their Assistants], might exact of them [the ryots] money and corn ; I pray you, let us leave off this usury. Restore, I pray you, to them, even this day, their lands, their vineyards, their olive-yards, and their houses, also the hundredth part of the money, and of the corn, the wine, and the oil, that ye exact of them. Then said they, We will restore them, and will require nothing of them ; so will we do as thou sayest. Then I called the priests, and took an oath of them, that they should do according to this promise. Also I shook my lap,



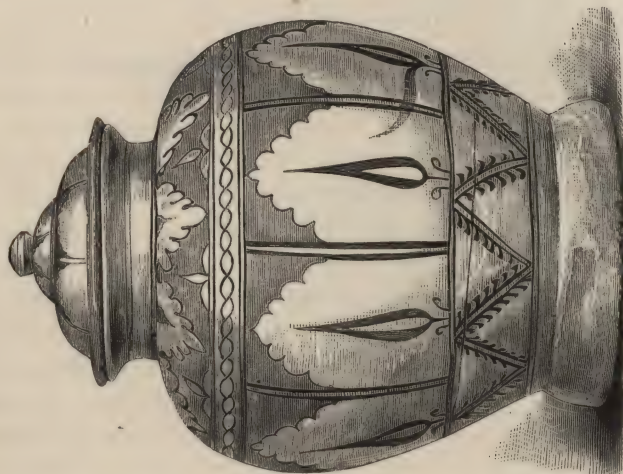
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ment has only mercilessly to leave him alone with his secular enemy, the *soukar*, and the village fields would probably soon pass from the poor peasant proprietor to the rich banker, and, held in fee simple, might at last be cultivated with the fullest advantage to the landlord and the State. Of course, under such a system of unrestricted competition for the soil the communal villages would disappear. The *ryotwari* tenure is very like freehold, but as it, in benevolence to the ryot, allows him to retain his lands as long as he pays the assessment on them, although he may never cultivate them, it so far restricts the transfer and proper cultivation of the land. Also, among an ignorant peasant population, the periodical revision of the assessment, paternally devised in the ryot's own interest, only serves to make him uncertain of the fixity of his tenure, and thus to restrict the improvement of his property. Even the annual settlement, which is not made to reassess the land, but to determine the amount of remission to be made for bad crops, and fields not cultivated, leads to the same result, and to unsettlement of mind and ill-will toward the Government. The ryot schemes through all the year, even against his own best interest, to swell the remissions as much as possible, and is never quite satisfied with the amount actually allowed him. The whole of this indictment against the *ryotwari* tenure, prevailing over the greater part of India, may be conceded, but we owe to it the conservation through every political change of the primitive arts of India, and when it becomes disorganised and perishes, they too will sink and pass away for ever. Popular art cannot exist in the face of the stark competition ever fomented by the development of external commerce in all things,

and said, So God shake out every man from his house, and from his labour, that performeth not this promise, even thus be he shaken out, and emptied. And all the congregation said Amen, and praised the Lord."—Nehemiah v 9-13. Nehemiah acted, indeed, on the ruling idea of the Indian Civilian that there should be no one between the Government and the ryots who cultivated the land, and paid the assessment thereon.

including the possession of the soil, to which competition some theorists would sacrifice even national existence. We have already seen this in England. In the fifteenth century that agrarian revolution began in this country which, in the end, accumulated the national lands in the hands of comparatively few proprietors. It was then that the old rural townships began to fail in the competition with the foreign importations drawn to London; and more and more extended pasture farming became necessary to supply the wool, woollen fabrics, skin, hides, leather, and cheese for exportation to the Continent. Under the growing pressure of competition for the land, Henry VIII was tempted to the suppression of the monasteries, and the secularisation of their property led gradually to the general extinction of the old rural communities, in whose existence was now involved the whole tradition of democratic culture and the continuity of popular progress in England. Still one-third of the country was held in copyhold at the beginning of the seventeenth century. But just then began our great commerce round the Cape of Good Hope with India, and the investment of the fortunes made in it in land; and thus at length the self-dependent peasant proprietors were everywhere swept away, and with them the last refuge of the popular arts in England. There can in fact be no popular arts without popular traditions, and traditionary arts can arise only among a people whose social and municipal institutions are based in perpetuity on a democratic organisation of their inherent right and property in the national soil, such as is secured to the people of India by the *ryotwari* tenure. This it is which has created for them the conditions of society, so picturesque in its outward aspects, so unaffected and fascinating in its inner life, in which the arts of India originated, and on the permanence of which their preservation depends. For leagues and leagues round the old Maratha cities of Poona and Sattara stretch fields of corn and pulse and oil grains and deep dyeing flowers, the livelier verdure of the rice fields following the courses of the



GLAZED [SILICIOUS] POTTERY, IN WHITE AND
BLUE, OF DELHI.



GLAZED PIERCED POTTERY OF
MADURA.



irriguous *nullahs* like a green thread wrought in gold ; and rich orchards, and high groves of mango mark the sites of the villages hidden in their shade. Glad with the dawn the men come forth to their work, and glad in their work they stand all through the noontide, singing at the well or shouting as they reap and plough ; and when the stillness and the dew of evening fall upon the land like the blessing and the peace of God, the merry-hearted men gather with their cattle, in long winding lines, to their villages again. Slowly, over all the wide champaign, the black lines shrink and disappear into the lengthening shadows of the mango-trees, and the day is closed in night. Thus day follows day, and the year is crowned with gladness. It is in the contemplation of such scenes as these that the Englishman in India drinks deep of the bliss of knowing others blest. Do they not truly realise that life of contentment in moderation which is the favorite theme of Horace ? Here is no

“ Indigent starveling among mighty heaps.”¹

The accumulation of immoderate wealth is impossible,

“ Yet far aloof is irksome poverty.”

And are not these the conditions under which popular art and song have everywhere sprung, and which are everywhere found essential to the preservation of their pristine purity ? To the Indian land and village system we altogether owe the hereditary cunning of the Hindu handicraftsman. It has created for him simple plenty, and a scheme of democratic life, in which all are coordinate parts of one undivided and indivisible whole, the provision and respect due to every man in it being enforced under the highest religious sanctions, and every calling perpetuated from father to son by those cardinal obligations on

¹ I quote Horace in Mr. Thornton's translation, the attraction of which, for those who have ceased to be at home in classical Latin, lies in the felicity with which, while literal, it preserves the grace and harmony of the original.

which the whole hierarchy of Hinduism hinges. India has undergone more religious and political revolutions than any other country in the world ; but the village communities remain in full municipal vigour all over the Peninsula. Scythian, Greek, Saracen, Afghan, Mongol, and Maratha have come down from the mountains, and Portuguese, Dutch, English, French, and Dane up out of its seas, and set up their successive dominations in the land ; but the religious trades union villages have remained as little affected by their coming and going as a rock by the rising and falling of the tide ; and there, at his daily work, has sat the hereditary village potter amid all these shocks and changes, steadfast and unchangeable for 3,000 years, Macedonian, Mongol, Maratha, Portuguese, Dutch, English, French and Dane of no more account to him than the broken potsherds lying round his wheel. I have gone thus fully into the Indian village potter's surroundings and antecedents because it is only by a chronological and historical reduction and a right knowledge of its economical conditions that we can get at all profitably at the origin of an art.* It need not be said how much an intelligent study of the influences under which the arts of India have been produced and are sustained will help to a fuller understanding of the origin and development of Indo-European art generally. The languages and mythologies of the Indo-European nations were never recognised to be one, until the key to their unity was found in the sacred language and religion of the Hindus, and the scientific investigation of Indian art will not fail to lead to profitable, and perhaps even surprising, results. Especially in Lahore and Delhi, the tradition is that it was introduced from China, through Persia, by the Mongols, through the influence of Tamerlane's Chinese wife ; and it is stated by independent European authorities that the beginning of ornamenting the walls of mosques with colored tiles in India was contemporary with the Mongol conquest of Persia. But in Persia the ancient art of glazing earthenware had come down in an almost unbroken tradition from the

period of the greatness of Chaldæa and Assyria, and the name *kasi*, by which the art is known in Persia and India, is probably the same Semitic word, *kas*, glass, by which it is known in Arabic and Hebrew, and carries us back direct to the manufacture of glass and enamels, for which "great Zidon" was already famous 1,500 years before Christ. The pillar of emerald in the temple of Melcarth, at Tyre, which Herodotus describes as shining brightly in the night, "can," observes Kenrick, "hardly have been anything else than a hollow cylinder of green glass, in which, as at Gades, a lamp burnt perpetually." The designs used for the decoration of this glazed pottery in Sindh and the Panjab also go to prove how much it has been influenced by Persian examples, and the Persian tradition of the ancient art of Nineveh and Babylon. The "Knop and Flower" pattern, which we all know in Greek art as the "Honeysuckle and Palmette" pattern, appears in infinite variations on everything.

The old glazed tiles to be seen in India are always from Mahommedan buildings, and they vary in style with the period to which the buildings on which they are found belong; from the plain turquoise blue tiles of the earlier Pathan period, A.D. 1193-1254, to the elaborately-designed and many-colored tiles of the latter part of the great Mogol period, A.D. 1556-1750. Wherever also the Mahommedans extended their dominion they would appear to have developed a local variety in these tiles. The India Museum has some remarkable examples of glazed tiles from the ruins of Gaur, the old Mahommedan capital of Bengal, which was erected into a separate kingdom almost simultaneously with Delhi itself. Mahomed Bakhtiar, the conqueror of Bihar, under Katub-ud-din, became first king of the dynasty, A.D. 1203, which lasted until the state was absorbed into Akbar's vast empire, A.D. 1573. But the city of Gaur was a famous capital of the Hindus long before it was taken possession of by the Mahommedans. The Sena and Bellala dynasties seem to have resided there, and no doubt, says Mr. Fergusson [*History of Indian*

Architecture, pp. 546, *et seq.*] with temples and edifices worthy of their fame. Be this as it may, some of the oldest of the India Museum Gaur tiles are not of any style of Mahommedan glazed tiles known elsewhere in India, and have a marked Hindu character, quite distinct from the blue, and diapered, and banded tiles which are distinctive of Mahommedan manufacture elsewhere in India before the florid designs of the Mogol period came into vogue. It would be well to examine any ruins about the Sena capital of Nuddea for old tiles to compare with those of Gaur. It is not at all improbable that in accounts of brick architecture like that of Bengal, glazed bricks were used by the Buddhists and Hindus for ages before the Mahommedan conquest.

The Bombay School of Art Pottery we owe chiefly to the exertions of Mr. George Terry, the enthusiastic superintendent of the school, who has a quick sympathy with native art. He has introduced some of the best potters from Sindh, and the work Mr. Terry's pupils turn out in the yellow glaze in Bombay is now with difficulty distinguishable from the indigenous pottery of Sindh. It is only to be identified by its greater finish, which is a fault. The green blue School of Art Pottery always betrays its origin by some inherent defect in the glaze or clay used. Mr. Terry has also developed two original varieties of glazed pottery at Bombay, the designs in one being adapted with great knowledge and taste from the Ajanta cave paintings, and the popular mythological paintings of the Bombay bazaars; while in the other they are of his, or his pupils' own inspiration, and derived from leaf and flower forms. Examples of all these varieties of the Bombay School of Art Pottery, of the imitation Sindh and the Terry ware, have been put together in a separate case in the India Museum. The glazed pottery which comes from Bombay of Sindhian designs on Chinese and Japanese jam and pickle pots are a violation of everything like artistic and historical consistency in art, and if they are not ignorant productions of the School of Art they are a most cruel slander on it.

But if it is a terrible error to darken by the force and teaching of English Schools of Art, and the competition of Government Jails, and other state Institutions and Departments in India, the light of tradition by which the native artists in gold and silver, brass and copper, and jewelry, and in textiles and pottery, work, it is an equal abuse of the lessons to be taught by such an exhibition of the master handicrafts of India as the India Museum presents for the manufacturers of Birmingham, and Manchester, and Staffordshire, to set to work to copy or imitate them. Or late years the shop windows of Regent Street and Oxford Street have been filled with electrotpe reproductions of Burmese, Cashmere, Lucknow, Cutch, and Madras silver and gold work, along with Manchester, Coventry, and Paisley imitations of Indian chintzes, *kincobs*, and shawls. Porcelain vases and tea services may also be seen covered all over with the Cashmere cone pattern copied literally in the gaudiest colours from some Cashmere shawl. This is simply to deprave and debase English manufactures and English taste. No people have a truer feeling for art than Englishmen and women of all classes, or purer elements of a national decorative style and methods: and the right and fruitful use of looking at superb examples of Indian jewelry, tapestries, and pottery is not to make literal counterfeits of them, but to kindle the sense of wonder and imagination in ourselves to nobler achievements in our own indigenous industrial arts. Art at second hand is already art in its decay; while nothing serves to maintain its perennial spontaneity and purity like the inspiration which comes of the contemplation of the best examples of foreign art. English manufacturers should visit the India Museum, not to slavishly plagiarise, but to receive into their breasts a stimulating and elevating influence from the light and life of a traditional art still fresh and pure, as at its first dawning two or three thousand years ago on the banks of the ancient Indus, the mystic Saraswati, and the sacred Ganges.

THE KNOP AND FLOWER PATTERN.

IN the Introduction to the *Handbook to the British Indian Section at the Paris Universal Exhibition of 1878*, I have briefly traced the development of civilisation in the course of the Aryan migration southward into Persia and India, and westward through Asia Minor, Greece, Italy, Spain, Germany, &c, and France to the British Isles; and in the Semetic and other lands which the to-and-fro trade between the Arabian and Mediterranean seas had to cross in consequence of the interposed obstruction of the Isthmus of Suez, about half way down the southern coastline of the Euro-Asian continent.

It is shewn how this line of coast and overland intercommunication between the East and West Aryas was subject to be constantly interrupted by the incursions of Scyths, Mongols, and other Turkish hordes, but how the trade by it still went on even after the Ottoman Turks had established their dominion between the Tigris and Euphrates, the Nile, and the Danube, and was only discarded on the discovery of the ocean way round Africa to the East. This was but 400 years ago, and for 3,000 years before, the road between India and the Mediterranean countries had been through the Tigris and Euphrates valley, and the valley of the Nile. From the time of Alexander, and through all the time of the Ptolemies and Seleucidæ, and under the Roman Empire, until Egypt, Syria, and Persia were conquered by the Saracens, the intercourse between India

and Greece through Persia, Assyria, Syria, and Egypt was unbroken and intimate. Although interrupted at first, it again revived under the Saracens, and, under the Ottoman Turks, was finally suspended only after the Portuguese had obtained possession of Ormuz. Even then the Armenians continued, as they have to the present day, the local intercourse between India and Assyria and Western Asia; going to India and purchasing goods on the spot, and returning with them to Bandar Abbas, Ispahan, Baghdad, Mosul, and Tabriz.

This is quite sufficient to account for the remarkable affinity between Assyrian and Indian decorative art, and the frequent identity of their ornamental details; which, in turn, prove the continuity and intimacy of the commercial intercourse between India and Assyria. Of course the general affinity between Indian and Assyrian art may be in part due to the common Turanian substratum, and common Aryan inspiration of Indian and Assyrian civilisation. When the Aryas made their way through Afghanistan and Cashmere into the Panjab, they found the plains of the Upper Indus already occupied by a Turanian race, which they indeed easily conquered, but which, as the caste regulations of the Code of Manu prove, was far superior to themselves in industrial civilisation. These aborigines already worked in metal and stone, and wove woollen, cotton, and linen stuffs, knew how to dye them, and to embellish their buildings with paintings: the descriptions of Megasthenes prove that, even at its highest development, Hindu civilisation was more Turanian than Aryan: and the pre-Aryan Turanian civilisation of India must have been similar to the pre-Semitic Turanian civilisation of Babylonia, Chaldæa, and Assyria, and probably preceded it. All that is monstrous in the decorative forms of Indian and Assyrian art, all that is obscene in Indian symbolism, is probably derived from common Turanian sources, anterior to direct commercial intercourse between India and Assyria. But, when we find highly artificial and complicated Indian decorative designs identical in

form and detail with Assyrian, we feel sure that the one must have been copied from the other, and indeed there can be no doubt that the Indian ornamental designs, applied to and derived directly from sculpture, which are identical with Assyrian, were copied from the monuments of Assyria; Egyptian, of course, from Egypt. We cannot trust alone to the allusions, references, or even descriptions of the Bible, Homer, and the Ramayana and Mahabarata to identify the art manufactures of India with those of Assyria, Phoenicia, and Egypt; by themselves they indicate generic likeness only; and their specific identity can be demonstrated only by a comparison of the actual remains of ancient art, and of the carved and painted representations on contemporary monuments. But when this identity has been proved from the monuments and other remains, the Bible, Homer, the Ramayana and Mahabharata, and Pliny are invaluable, in that they enable us to complete our information on the sure and certain foundation so laid; and to the picture thus composed of the early civilisation of the world we are justified in giving colour and motion from the strictly traditional, still living, civilisation of India.

The Bible, and Homer, and the Greek poets generally, are full of idyllic scenes from the life of ancient Greece, Syria, and Egypt, which are still the commonplaces of the daily life of the natives of India, who have lived apart from the corruptions of European civilisation. There are many passages also directly illustrating the handicrafts of the ancients. In Proverbs xxx, attributed to Solomon about B.C. 1015-975, we read the praise of a good wife:—"She seeketh wool and flax, and worketh willingly with her hands. She is like the merchant's ships, she bringeth her food from afar. She riseth up while it is yet night, and giveth meat [bread] to her household. * * * She considereth a field and buyeth it; with the fruit of her hands she planteth a vineyard. * * * She perceiveth that her merchandise is good: her candle goeth not out by night. She layeth her hand to the

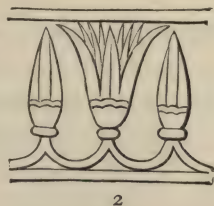
spindle, and her hands hold the distaff. * * She is not afraid of the snow for her household ; for all her household are clothed with scarlet. She maketh herself coverings of tapestry : her clothing is silk and purple. Her husband is known in the gates, when he sitteth among the elders of the land. She maketh fine linen and selleth it ; and delivereth girdles unto the merchant. Strength and honour are her clothing ; and she shall rejoice in time to come. * * * Her children rise up and call her blessed ; her husband also, and he praiseth her. * * * Favour is deceitful and beauty vain, but a woman that feareth the Lord, she shall be praised. Give her of the fruit of her hands, and let her own work praise her in the gates." And in Exodus xxxvi 30-35, about B.C. 1500, we read of Bezaleel and Aholiab, the master craftsmen of the first Temple :—"And Moses said unto the children of Israel, See, the Lord hath called by name Bezaleel, the son of Uri, the son of Hur, of the tribe of Judah ; and He hath filled him with the spirit of God in wisdom, in understanding, and knowledge, and in all manner of workmanship ; and to devise curious works, to work in gold, and in silver, and in brass, and in the cutting of stones to set them and in carving of wood to make any manner of cunning work. And He hath put in his heart that he may teach, both he and Aholiab, the son of Ahisamach, of the tribe of Dan. Them hath He filled with wisdom of heart to work all manner of work of the engraver, and of the cunning workman, and of the embroiderer, in blue and in purple, and in scarlet, and in fine linen, and of the weaver, even of them that do any work, and of those that devise cunning work." These passages [and there are numbers of the same description in Homer and Aristophanes] are sufficient to prove the close affinity of the primitive Hindu civilisation of India, in the simplicity and beauty of its life, the profound religiousness of its animating spirit, and also in the identity of many of its industrial arts with the civilisations of Assyria, Phœnicia, and Egypt, and with that of

Greece in the heroic age at least ; while even in the midst of the growing corruptions of imperial Rome we find that Augustus Cæsar brought up the females of his family and household on the antique model, and wore no clothing but such as had been made by their hands.

The researches of Mr. Fergusson have shewn that stone architecture in India does not begin before the end of the third century B.C. He has also drawn attention to the similarity in ground plan, and in some instances in elevation, of Indian temples to Assyrian and Egyptian. He observes that if the description given by Josephus of the temple at Jerusalem, as rebuilt by Herod, be read with a plan such as that of Tinnevely, it is impossible to escape the conviction that these coincidences are not wholly accidental. In their grandeur and splendour of detail and in the labour bestowed on them for labour's sake, the resemblance between the temples of Egypt and Madras is most remarkable. Not less startling are the traces of Assyrian art in these temples, and Mr. Fergusson expresses the opinion that, if we are to trust to tradition or to mythology or to ethnological coincidences, it is rather to the valley of the Tigris and Euphrates than to the banks of the Nile that we should look for the *incunabula* of what are found in Southern India. The minor arts of Madras are palpably derived from the temple architecture and ornamentation of that Presidency. A Madras silver incense-stickholder belonging to Mr. W. G. S. V. FitzGerald, formed of an antelope hunted by a dog along a conventional flower stalk, and taken from the sculptures common on all Madras temples, is identical with some of the representations of hunting scenes on the Assyrian monuments given in Rawlinson's *Ancient Monarchies*. In this it is clear that India is the copyist. The knop and flower, or cone and flower, pattern is represented, with local variations, on early Indian monuments in the same form and general style as on the marbles of Assyria and in the Bharhut sculptures,

at least, the lotus is repeatedly represented in the identical half conventional form in which we find it, *en silhouette*, in the hieroglyphic paintings of Egypt. Here again it is obviously India which has copied from Assyria. It is quite possible, however, that some of the very forms in India which can be proved to be copied from Assyrian temples and palaces may have originally been carried into Egypt and Assyria on Indian cotton or woollen fabrics and on jewelry.

The knop and flower pattern commonly found on Sindh pottery [1] is identical with the knop and flower pattern [2] on



the Koyunjik palace doorway, figured in Rawlinson's *Ancient Monarchies*, vol. i, p. 417. In the same volume, at page 493, is a circular breast ornament [3], on a royal robe, from a sculpture



at Nimrud. Here the cone does not alternate with a lotus flower, but with the fan-like head of the *Hom*. Nor is the cone

a lotus bud, but a larger representation of the fruit of the *Hom*. In a common form of Persian plate [4], which may [chiefly because of the circular shape of the two objects] be compared with



4

this breast ornament, the cone is developed into a form conical in shape, but *Hom*-like in detail, and the flower is metamorphosed into a strange Chinese style of scroll. That it is the knop and flower pattern is proved beyond dispute by the curved line which unites the base of the knop with the base of the flower, and which is found surviving in ornaments derived from this pattern when almost every other trace of it has disappeared. A modification, in point, of this pattern is repeated on the inner border of the plate. A very beautiful variation of the pattern is one of the commonest seen on Sindh tiles [5], in which the knop has become the regular Saracenic cone, and the flower not the head of the *Hom*, or lotus, but a full-blown iris. On Delhi and Cashmere shawl borders [6] the *Hom*-head-like flower often looks



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very like the "Shell" on Renaissance mouldings. On these shawl borders the knop and flower are often also combined [7],

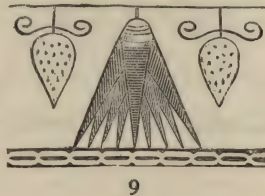
the knop becoming the cone or cypress-like trunk of a tree, the branches of which fan out like the fronds of the *Hom*. In some Indian and Persian carpets the knop or cone throws out graceful *Hom* fronds, one on either side, from the ends of which hangs a large flower, presenting the alternation of a branching cone and flower. Every other branching cone is also, as it were, upside down, so that we get a winding floriated line running in and out between each cone and flower. When the cone is large it is filled in with floral detail, as in Cashmere shawls, the last bright inflorescence of the original hard Egyptian and Assyrian knop and flower pattern. A few engravings [8 to 19] are added from Owen Jones' *Grammar of Ornament*,



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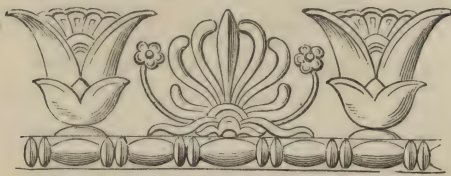
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19

to shew the modification of this pattern in Egyptian, Assyrian, Greek, Italian, Renaissance and Indian art. The Greek "honey-suckle and palmette" scroll [13] is simply the knop and flower, as are the Renaissance "shell" [14], and the "tongue and dart," and "egg and tongue" patterns in classical mouldings. Long ago Mr. Fergusson pointed out [in his *Illustrated Handbook of Architecture* vol. i, p. 7] that in the "lat" at Allahabad, the necking [20] immediately below the capital represents with

considerable purity the honeysuckle ornament of the Assyrians, which the Greeks borrowed from them with the Ionic order.



20

Its form is derived originally from the Date *Hom*, but it really represents, conventionally, a flowering lotus, as the Bharhut



21



22

sculptures [21, 22] enable us to determine. The "reel and bead" pattern running along the lower border of the necking represents the lotus stalks. One Chinese modification [23] of the knop and flower pattern is very significant. The flower is here a pomegranate, and the cones have become green pomegranate buds; but, instead of being in their original Assyrian places, they are attached to the edge of the vermillion corolla, one on each side, while their old places are filled by a panel formed by the curved lines, which should have joined the flower to the bud, running down between the flowers in parallel lines to the lower edge of the patterned border.



23

The Assyrian breast ornament figured by Canon Rawlinson proves that the fan-like pattern throwing off its long stalked cones, arranged alternately round the border with the larger cones, is the head of the *Hom*, represented in the centre, and a multitude of representations of the *Hom* in Rawlinson's *Ancient Monarchies* and Herodotus, and on old Saracenic and Sicilian brocades [24] prove that it is the date-tree, and that the long-stalked cones



24

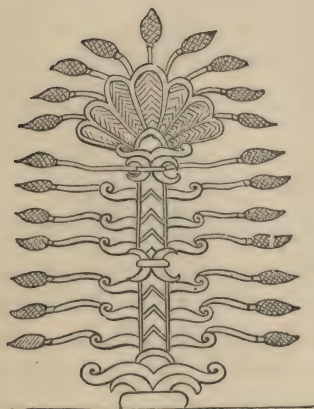
flourished out from it, and the large cones which alternate with it round the border of this breast ornament are great clusters of dates, highly conventionalised. These cones are sometimes replaced by pomegranates, and, strange to say, the tree of life represented on modern Yarkand rugs is always a pomegranate tree. The cone figured by Canon Rawlinson, vol. ii, p. 212, as a pineapple is clearly a bunch of dates bursting from its spathe. This cone appears on late Italian and early Renaissance brocades [25]

crowned, with flames rising from the crown, and alternating with oak-leaves, from which long-stalked acorns are represented issuing forth like the cones from the trunk and head of the date *Hom*.

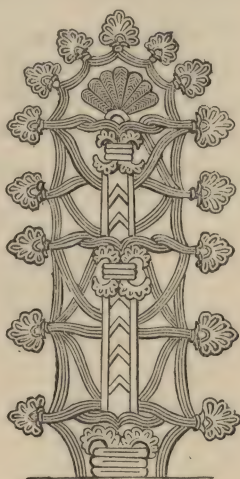
The original *Hom* was the Sanskrit *Soma*, *Sarcostemma viminalis*, *vel brevistigma*, a leafless [the rudimentary leaves are scarcely visible] scandent asclepiad, with its flowers collected in umbels, fan-like *en silhouette*, a native of the southern slopes of the Cashmere Valley and Hindu Kush, the fermented juice of which was the first intoxicant of the Aryan race. It is still used as an intoxicant by the Brahmans, and the succulent stalks are chewed by weary wayfarers to allay their thirst. It is admirably represented on the Assyrian sculptures [26]; and in Rawlinson's



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27

Ancient Monarchies, vol. ii, p. 236, it is figured twined very characteristically [27], although highly conventionally, about the

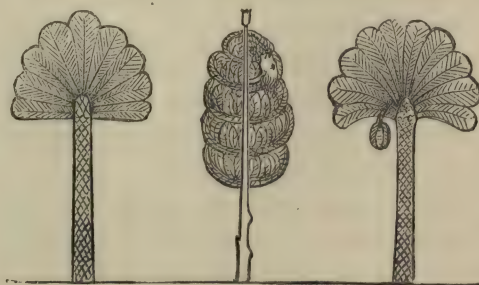
date tree, forming the "Tree of Life," *Asherah*, or "grove," sacred to Asshur, the Supreme Deity of the Assyrians, the Lord and Giver of Life. Canon Rawlinson notices the resemblance of the *Hom* head to the Greek honeysuckle ornament, and adds, "I suspect that the so-called 'flower' (*i.e.*, honeysuckle) was in reality a representation of the head of a palm-tree."



28

The accompanying Greek ornament [28] from the vase of Nicosthenes is obviously derived from the Assyrian form of the tree of life. Possibly the date was substituted for the original *Hom* in Assyria, in consequence of the Aryas finding that they could not naturalise the true *Hom* plant, or because the date yields a more abundant intoxicating

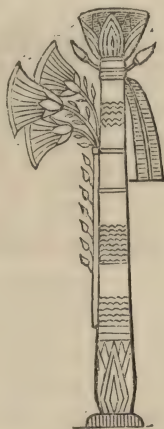
juice. Its fruit, also, would become the staff of life in the region of the Euphrates Valley, and hence would naturally be consecrated to Asshur, as the "Tree of Life." Later, the vine took its place in Asia Minor and Greece. As the "Tree of Life" is associated in the Bible with the Serpent and the Tree of Knowledge of Good and Evil, which brought death into the world, so, it is very suggestive to see in Rawlinson, vol. ii, p. 167, the date *Hom* arranged alternately with a serpent-



29

encircled cypress [29], in the scene in which an Assyrian king is feasting his queen in a bower (*gloriette*) of the royal gardens.

In Egypt the knop and flower were represented by the date palm and its fruit, by the lotus and its bud, and by the lotus flower and a bunch of grapes, or the lotus flower and a bull's head; sometimes the flower by the papyrus head. In Owen Jones' *Grammar of Ornament*, Plate 4, Fig. 6, the ornament [30], which looks like a lotus-headed form of some sort is proved to be a date, by the rippled mass of red and green hanging down one side of it, representing the ripe fructification of the date bursting from its spathe. That the ripple is taken from the zig-zag of the branching date stalks, any botanist will see. On the monuments, the Phœnician Venus Chiun [Amos v. 26] is shewn, presenting snakes to Remphan or Moloch, the Author of Death, and lotus flowers to Khem, the Author of Life, on whose altar we find the Tree of Life represented by a Loto-Papyro-Palmheaded plant form, with a Cyprus form, evidently derived from the lotus bud, on either side, and guarded by the *cabiri*, which suggested to the Hebrews the Cherubim, placed at the East of the Garden of Eden, to keep the way of the Tree of Life, and to the Greeks "the dog" Cerberus, that guarded the entrance to Hades. The Tree of Life is represented throughout Greek and Roman and Italian and Renaissance art. It is still represented on the commonest Spanish and Portuguese earthenware by a green tree that looks exactly like a Noah's ark tree; but it invariably springs from two curved horns, which betray the secret. In India the knop and flower change like the transformations of a dream. Indeed, in Hindu art imagination is let loose as in a dream. In the Amravati and Bharhut sculptures the transformations go on under your eye, and reveal the whole mystery. The cone is generally the lotus bud, and the elephant is never represented in carved stone without it in its trunk.



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Sometimes the cone of budding plantain fruit takes its place. The flower is generally the lotus represented *en silhouette*, like a fan, or full-faced; and sometimes the fan-like form of the Date *Hom* is given to the peacock's tail, and to the many-headed cobra; and not only these cobra heads, but the water-lily is represented in true honeysuckle form. The cone is also represented by the mango and jack. In short, anything full of the glory of life becomes the symbol of life. The peacock's tail, the lotus flower, the jack, the nutritious and uncloying plantain, the luscious golden mango, the thyrsus-like clusters of the flowers of the *cadumba*, and the sacred fig, throwing down rootlets from every branch, which take root again and spring up in forests round the parent stem, all are natural and obvious symbols of life. The melon-shaped finial on the pagodas of Indian temples, taken directly from a water vessel, is, I believe, derived from the unripe fruit of *Nymphaea rubra*. We have, however, to be on our watch for the vagaries of Hindu imagination. The entire leaf of the jack, *Artocarpus integrifolia*, is represented so swollen and bursting with life as to pass into the divided leaf of the Bread Fruit Tree, *Artocarpus incisa*. Again, we find the catkins of the jack, from which the long pendent ornaments worn by elephants in front of their ears are modelled, represented hanging out of the flowers, and from the fruit of the lotus, from the branches of the sacred fig, and about the *linga*, and *trisul*, which I believe to be the combined *linga* and *yoni*. In the earlier sculptures a lotus plant



[31] is represented issuing from the proboscis of an elephant, the stalk running along in an undulating line, between the

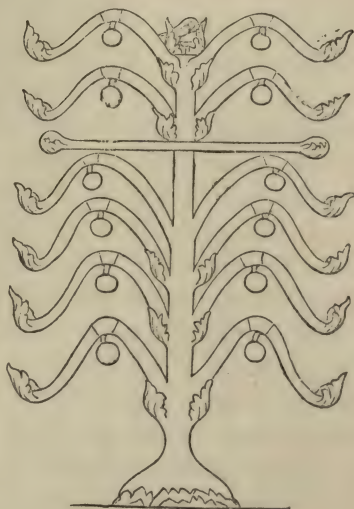
curves of which the flower is seen alternately in full face and *en silhouette*, in the most superb style of conventional art. In the Bharhut sculptures, a lotus springs in the same way from an elephant, and its flowers alternate with the jack and mango; and between each lotus "flower" and whatever fruit takes the place of the "knop" or cone, we have representations of the Buddhistic fables or *jatakas*; while the fruitful mystic lotus is represented pouring down all manner of good things, and jewelry in countless forms. In one place a woman in a tree, reminding one of the women in the Egyptian Tree of Life, is pouring water into a man's hands, from a veritable "tea-pot." In the Amravati and Takht-i-bhai sculptures, the lotus stalk is looped up in festoons by dwarfs, as we see similar festoons, in Roman architectural remains, held up by genii. The Takht-i-bhai sculptures were doubtless influenced by Greek examples, or were executed under Greek direction; but the intercourse with Assyria will really account for a good deal that looks like Greek inspiration in India, just as it is now evident that the ornamental details of Greek sculptures also were derived from Assyria. The "knotted rope" pattern may have been taken from the knots in the stalks of the cones issuing from the stem and head of the Date *Hom*, and the wedge pattern, alternate dark and light, from the conventional representation of the leaf scars on the stem of the Date *Hom*. The tree-like figures [32, 33, 34] here illustrated, taken from Owen Jones and Mr. Fergusson and Mrs. Jameson, all recall the *Asherah* or "Grove" of the Assyrians, particularly the mediæval representation of the Cross, as the tree with twelve leaves for the healing of the nations.

Sometimes on Persian rugs the entire tree is represented, but generally it would be past all recognition but for smaller representations of it within the larger. In Yarkand carpets, however, it is seen filling the whole centre of the carpet, stark and stiff as if cut out in metal. In Persian art, and in Indian art derived

from Persian, the tree becomes a beautiful flowering plant, or simple sprig of flowers; but in Hindu art it remains in its hard



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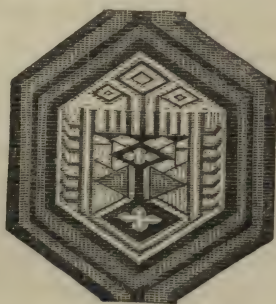


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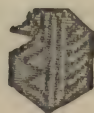
architectural form, as seen in temple lamps, and the models in brass and copper of the Sacred Fig as the Tree of Life. On



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an embroidered Indian bag it is represented in two forms, one like a notched Noah's ark tree [35], and the other branched

like the temple candelabra [36]. In this bag the cone [37] is represented with the trees.

It is not difficult to conjecture how these religious symbols of the first worship of the Aryan race, afterwards darkened and polluted in Turanian India and Egypt and Assyria by a monstrous and obscene symbolism, came to be universally adopted in the art ornamentation of the East. They originated in the embroidered hangings and veils worked by women for the temples, which they embroidered with the representation of the symbol of the deity worshipped.

The women "who wove hangings for the grove," or *Asherah*, are alluded to in 2 Kings xxiii 7. They probably embroidered on cut patterns, and worked the larger patterns in *appliqué* into their work; and they cut the patterns by folding the cloth double, so as by one undulating or zig-zag cut to get a two-sided symmetrical pattern. Nor is this entirely conjecture. This method is everywhere practised among the artistic peasantry of Europe. I have a number of such patterns, which I once saw a French peasant boy cutting out in paper, to while away the time. It happens that they are all of trees, some cypresses and other trees with the cross introduced in the most strange conventional manner about them, trees, in fact, of life and death. The method of cutting out patterns in this way tends to perpetuate a symmetrical and rectangular representation of ornament. The Noah's ark-like tree, on the Pindari bag, is certainly derived from a bit of paper or cloth folded and cut crossways and then notched. Be this as it may, the knop and flower pattern, and the Tree of Life pattern pervade all decorative art, and by direct derivation from the Assyrian lotus and lotus bud, and *Asherah* cone, but no longer as symbols. This absence of symbolism is the weakness of modern European decoration, as indeed it was of Grecian; and yet what conventional form is more beautiful than the French *Fleur-de-lis*, more beautiful and worshipful than the Tudor rose, or than such heraldic symbols as the cross crosslet; and the

most natural decoration for wall papers, curtains, and book lining papers, would be, for people who could afford it, to use family arms, alone, or in combination with national symbols, and conventionalised representations of national flowers or animals. But no symbols can approach in beauty of form and meaning to the knop and flower, and the *Hom* of Assyria and, purified of all local taint of Asshur, Ashtoreth or Astarte, they belong to all the Aryan races in the old world and the new. They are probably the most ancient badges of the Aryan race, but in India their employment in ornamentation under the influence of the Puranic mythology, was for ages subordinated to that of the monstrous idol shapes of the Dravidian south; and it was by the Persianised or Arianised Arabs, Afghans, and Mongols [Turkomans], that their use was reintroduced as predominant forms in Indian decoration, wherever, throughout Hindustan and the Dakhan, Mahommedanism prevails. They are seen figured everywhere in oriental art, and we cannot take up a talisman of Egypt, a Syrian silk, an alabastron of Persian perfumes, or a Persian illuminated MS., or carpet, a Cashmere shawl, an Indian jewel, or *Kincob*, any of the great store of these splendid and precious stuffs, and arms, and vessels of wrought gold and silver, herein described, on which we do not find them represented, as the acknowledgment in their original use at least, of the Divine Author and Finisher of every good and perfect work; under forms, taken from the most majestic of trees and the most graceful of flowers, and which express more simply, directly, and fully than can any form of words, the wisdom and beneficence of the Creator and the gladness and praise of men. Thus Indian Art, in every decorative detail, Aryan or Dravidian, bears witness to the universal conviction that the character of man's being and destiny is supernatural; and that human duty, and all that gives to daily intercourse the charm of art and grace of culture, possess their reality and true meaning only in the purposes of a life beyond life.

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